

# BIOLOGY – PRE-PROFESSIONAL (PRE-DENTAL, PRE-MEDICAL, PRE-OPTOMETRY, PRE-PHARMACY, PRE-PHYSICIAN'S ASSISTANT, AND PRE-VETERINARY (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>Biology</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 390	Biology Internship	1-3
<b>Biology Electives</b>		
BIO Upper-Division Electives (300-level or higher) 2credits maximum of BIO 411/412 - BIO 390 counts		12
<b>Chemistry</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>		
PHYS 101	Principles of Physics I or PHYS 201 Physics with Calculus I	3
PHYS 101L	Principles of Physics I: Lab	1
PHYS 102	Principles of Physics II or PHYS 202 Physics with Calculus II	3
PHYS 102L	Principles of Physics II: Lab	1
<b>Mathematics</b>		
Select one of the following:		5-6
MATH 155 Elementary Functions I & MATH 156 and Elementary Functions II * or MATH 2' Calculus I and Calculus II & MATH 21		

**Total Hours 62-65**

*\*Math and Science requirements in major also fulfill core requirements.*

*All courses required in the major must be completed with a "C-" or better in order to satisfy the major. If a student places into MATH 156, then they only need to complete MATH 156 to fulfill the math requirement. If a student places into MATH 210A, then they have completed the Math requirement for this major. If MATH 221 is required, it must still be taken. Incoming students need to place into MATH 104 in order to enroll in BIO 101 and MATH 155 to enroll in CHEM 101.*