

# CHEMISTRY – 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 Thermodynamics, Kinetics, Equilibrium, Structure of Materials, Quantum Mechanics, Synthesis, Reactivity of Substances and Green Chemistry.
- 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 in chemistry consistent with the American Chemical Society.
- Students will demonstrate discipline-specific core laboratory and calculation-based skills related to the synthesis and characterization of compounds and common methods of chemical analysis.
- Students will demonstrate readiness for post-baccalaureate entry into a workforce or advancement (entrance) into graduate or professional programs in Chemistry.
- Students will demonstrate global perspective in their understanding of how chemistry affects 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

Chemistry		
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
CHEM 303	Modern Analytical Chem	3
CHEM 303L	Modern Analytical Chem Lab	1
CHEM 305	TH2:CIT:Inorganic Chemistry	3
CHEM 310	Found of Physical Chem	4
CHEM 390	DV:Chemistry Internship	3
Mathematics		
MATH 210A	Calculus I	3
MATH 211	Calculus II	3
MATH 310A	Calculus III	3
Physics		
PHYS 201	Physics with Calculus I	3
PHYS 101L	Principles of Physics I: Lab	1
PHYS 202	Physics with Calculus II	3
PHYS 102L	Principles of Physics II: Lab	1
<b>Total Hours</b>		<b>67</b>

*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. Incoming students need to place into MATH 104 in order to enroll in BIO 101 and MATH 155 into enroll in CHEM 101.*

Code	Title	Hours
Biology		
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