

Physics: Biophysics concentration (B.S.)

2024-2025 catalog

Student Name: _____ ID Number: _____

Major Requirements

Term Completed/Planned	Grade	Credit	Course #	Title
_____	_____	5	PHY121 and 121L:	General Physics I (NSM-L)
_____	_____	5	PHY122 and 122L:	General Physics II (NSM-L)
_____	_____	5	PHY317 and 317L:	Biophysics
_____	_____	5	PHY343 and 343L:	Modern Physics
_____	_____	4	PHY351	Classical Mechanics
_____	_____	5	PHY361 and 361L:	Electronics
_____	_____	4	PHY365	Electricity and Magnetism
_____	_____	2	PHY395	Comprehensive Laboratory I
_____	_____	2	PHY396	Comprehensive Laboratory II
_____	_____	4	CHM368	Physical Chemistry: Microscopic Theory
_____	_____	2	PHY484	Quantum Mechanics Supplement
_____	_____	5	CHM115 and 115L:	General Chemistry I (NSM-L)
_____	_____	5	CHM116 and 116L:	General Chemistry II (NSM_L)
_____	_____	4	MAT145	Calculus I (NSM)
_____	_____	4	MAT146	Calculus II (NSM)
_____	_____	4	MAT255	Multivariable Calculus
Complete one (1) of PHY327 or MAT369				
_____	_____	4	PHY327	Special Functions of Mathematical Physics
_____	_____	4	MAT369	Modeling and Differential Equations in Biological and Natural Sciences
Complete one (1) independent project (either BIO499, CHM499, MAT499, or PHY499)				
_____	_____	4		Independent Study
Complete at least four (4) elective credits, chosen from:				
_____	_____	5	BIO473 and 473L:	Physiology of Humans and Other Animals
_____	_____	5	BIO475 and 475L:	Neurobiology
_____	_____	4	CHM362	Physical Chemistry: Macroscopic Theory
_____	_____	2	CHM430	Advanced Thermodynamic and Separation Lab
_____	_____	2	CHM450	Advanced Spectroscopy and Computational Chemistry Lab
_____	_____	4	CHM481	Instrumental Analysis
_____	_____	4	CHM482	Advanced Inorganic Chemistry
_____	_____	4	CSC371	Computer Organization
_____	_____	4	CSC431	Introduction to AI Robotics
_____	_____	4	MAT273	Statistical Modeling
_____	_____	4	MAT369	Modeling and Differential Equations in Biological and Natural Sciences (<i>if not used in place of PHY327 above</i>)
_____	_____	4	MAT455	Numerical Mathematics and Computation
Complete one (1) additional elective course, chosen from:				
_____	_____	5	BIO253 and 253L:	Introductory Cellular Biology
_____	_____	5	BIO255 and 255L:	Genetics
_____	_____	5	BIO/CHM 369 and 369L:	Biochemistry
_____	_____	5	BIO471 and 471L:	Advanced Cellular and Molecular Biology
_____	_____	5	BIO475 and 475L:	Neurobiology
_____	_____	5	BIO476 and 476L:	Microbiology
_____	_____	4	BIO486:	Immunology
_____	_____	5	CHM280 and CHM280L:	Quantitative Analytical Chemistry
_____	_____	4	CHM464	Advanced Organic Chemistry
_____	_____	4	CHM481	Instrumental Analysis

(Continued on page 2)

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Complete **one (1)** Speaking skill course, chosen from:

_____	_____	4	COM111	Public Speaking (HUM)
_____	_____	4	COM115	Scientific and Technical Public Speaking (HUM)
_____	_____	2	MAT201	Communicating Mathematics
_____	_____	4	HON130	Liberating Letters (HUM)

Abbreviation Key: ML = Modern Language; SC = Signature Curriculum; EM = Engaging Minneapolis; AE = Augsburg Experience; KC = Senior Keystone Course; NSM = Natural Science & Mathematics - no lab; NSM-L = Natural Science & Mathematics-with lab; SBS = Social & Behavioral Science; FA = Fine Arts; HUM = Humanities