

Physics: Biophysics concentration (B.S.)

2023-2024 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 | PHY245 and 245L: | Modern Physics |
| _____ | _____ | 5 | PHY261 and 261L: | Electronics |
| _____ | _____ | 5 | PHY317 and 317L: | Biophysics |
| _____ | _____ | 4 | PHY351 | Classical Mechanics |
| _____ | _____ | 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 |

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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

Student's Signature

Date

Advisor's Printed Name

Signature

Date

Advisor(s): By signing, you indicate you have verified the accuracy of the information above. Faculty advisors must initial next to each course substitution/waiver and sign this form.