

Physics Major Concentrations – Approved in 2020

Astrophysics	Experimental and Theoretical Physics	Biophysics	Education
<p>Required courses (42-44 hours) PHYS 111:112 (4:4) General Physics OR PHYS 221:222 (4:4) Physics PHYS 201 (1) Introductory Seminar PHYS 303 (3) Mathematical Methods of Physics PHYS 305 (4) Modern Physics PHYS 306 (3) Intermediate Mechanics PHYS 309 (3) Electronics Laboratory PHYS 330 (3) Thermodynamics and Statistical Mechanics PHYS 370 (3) Computational Methods in Physics PHYS 401 (2) Senior Seminar PHYS 421 (4) Electromagnetic Theory I</p> <p>MATH 168 (3) Calculus I with Integrated Precal I MATH 169 (3) Calculus I with Integrated Precal II OR MATH 171 (4) Calculus and Analytic Geometry I AND MATH 172 (4) Calculus and Analytic Geometry II</p> <p>One of the following 3 courses is required: ASTR 151 (3) Astronomy I ASTR 152 (3) Astronomy II ASTR 220 (3) Introduction to Astrophysics</p> <p>A minimum of 12 credit hours must be selected from the following: ASTR 310 (3) Observational Methods in Astronomy ASTR 421 (3) Solar System Astronomy ASTR 422 (3) Galactic Astronomy and Cosmology PHYS 301 (4) Atmospheric Physics PHYS/GEOL 406 (4) Geophysics</p> <p>B.S. requirements: CHEM 111 (4) General Chemistry CHEM 112 (4) General Chemistry</p>	<p>Required courses (51-52 hours) PHYS 221:222 (4:4) Physics PHYS 201 (1) Introductory Seminar PHYS 303 (3) Mathematical Methods of Physics PHYS 305 (4) Modern Physics PHYS 306 (3) Intermediate Mechanics PHYS 309 (3) Electronics Laboratory PHYS 330 (3) Thermodynamics and Statistical Mechanics PHYS 370 (3) Computational Methods in Physics PHYS 401 (2) Senior Seminar PHYS 421 (4) Electromagnetic Theory I PHYS 430 (3) Quantum Mechanics PHYS 440 (3) Advanced Laboratory</p> <p>MATH 169 (3) Calculus I with Integrated Precal II OR MATH 171 (4) Calculus and Analytic Geometry I</p> <p>MATH 172 (4) Calculus and Analytic Geometry II MATH 271 (4) Calculus and Analytic Geometry III</p> <p>A minimum of 6 credit hours must be selected from any PHYS course 300 level or above except for PHYS 470 (6 hours)</p> <p>B.S. requirements (8 hours) CHEM 111 (4) General Chemistry CHEM 112 (4) General Chemistry</p>	<p>Required courses (37 hours) PHYS 221:222 (4:4) Physics PHYS 201 (1) Introductory Seminar PHYS 303 (3) Mathematical Methods of Physics PHYS 305 (4) Modern Physics PHYS 306 (3) Intermediate Mechanics PHYS 309 (3) Electronics Laboratory PHYS 330 (3) Thermodynamics and Statistical Mechanics PHYS 370 (3) Computational Methods in Physics PHYS 401 (2) Senior Seminar PHYS 421 (4) Electromagnetic Theory PHYS 430 (3) Quantum Mechanics</p> <p>Math Requirements (11-12 hours) MATH 169 (3) Calculus I with Integrated Precal II OR MATH 171 (4) Calculus and Analytic Geometry I</p> <p>MATH 172 (4) Calculus and Analytic Geometry II MATH 271 (4) Calculus and Analytic Geometry III</p> <p>Chemistry Requirements (11 hours) CHEM 301 (4) Organic Chemistry I CHEM 302 (4) Organic Chemistry II CHEM 471 (3) Biochemistry I</p> <p>Biology Requirements (16 hours) BIOL 131 (4) Ecology and Adaptation BIOL 132 (4) Biology of Cells and Microorganisms BIOL 231 (4) Genetics, Evolution, and Development BIOL 232 (4) Organismal Biology</p> <p>B.S. requirements (8 hours) CHEM 111 (4) General Chemistry CHEM 112 (4) General Chemistry</p>	<p>Required courses (37 hours) PHYS 221:222 (4:4) Physics PHYS 201 (1) Introductory Seminar PHYS 303 (3) Mathematical Methods of Physics PHYS 305 (4) Modern Physics PHYS 306 (3) Intermediate Mechanics PHYS 309 (3) Electronics Laboratory PHYS 310 (3) Optics PHYS 330 (3) Thermodynamics and Statistical Mechanics PHYS 401 (2) Senior Seminar PHYS 421 (4) Electromagnetic Theory I PHYS 430 (3) Quantum Mechanics</p> <p>Math Requirements (11-12 hours) MATH 169 (3) Calculus I with Integrated Precal II OR MATH 171 (4) Calculus and Analytic Geometry I</p> <p>MATH 172 (4) Calculus and Analytic Geometry II MATH 271 (4) Calculus and Analytic Geometry III</p> <p>B.S. requirements (8 hours) CHEM 111 (4) General Chemistry CHEM 112 (4) General Chemistry</p>