



ACADEMIC MAP - PHYSICS

2024-2025



NORTHWESTERN STATE
UNIVERSITY OF LOUISIANA

Department of Physical Science
[nwstate.edu/physical-science](https://www.nwstate.edu/physical-science)



START HERE

YEAR 1	SEMESTER 1				Electives	
	Milestones	Grade	Credits	Concentration	Credits	
	*CHEM 1030 – General Chemistry 1			3		
	*CHEM 1031 – General Chemistry Laboratory 1			1	Science	
	MATH 1100 – Precalculus Mathematics			6	Academic	
	ENGL 1010 – Composition & Rhetoric 1			3		
UNIV 1000 – The University Experience			1			

* Classes require a minimum grade of C to pass. Semester Credits _____

SEMESTER 2	Milestones	Grade	Credits	Electives		
				Concentration	Credits	
	*PHYS 2510 – General Analytical Physics 1			3		
	*PHYS 2511 – General Analytical Physics Laboratory 1			1	Science	
	MATH 2100 – Analytical Geometry & Calculus 1			5	Academic	
	*BIOL 1010 – Biology Principles 1			3		
*BIOL 1011 – Biology Principles Laboratory 1			1			
ENGL 1020 – Composition & Rhetoric 2			3			

* Classes require a minimum grade of C to pass. Semester Credits _____

Total Credits _____

YEAR 2	SEMESTER 1				Electives	
	Milestones	Grade	Credits	Concentration	Credits	
	*PHYS 2520 – General Analytical Physics 2			3		
	*PHYS 2521 – General Analytical Physics Laboratory 2			1	Science	
	*PHYS 3400 – Minicomputer Interfacing with Scientific Instrumentation			3	Academic	
	*PHYS 3510 – Numerical Simulations in Physics			3		
MATH 2110 – Analytical Geometry & Calculus 2			5			

* Classes require a minimum grade of C to pass. Semester Credits _____

Total Credits _____

SEMESTER 2	Milestones	Grade	Credits	Electives		
				Concentration	Credits	
	*PHYS 4510 – Mechanics			4		
	*CHEM 1040 – General Chemistry 2			3	Science	
	*CHEM 1041 – General Chemistry Laboratory 2			1	Academic	
	*MATH 3130 – Analytical Geometry & Calculus 3			3		
ENGL 2110 – Introduction to Literature			3			
COMM 1010 or COMM 2500			3			

* Classes require a minimum grade of C to pass. Semester Credits _____

Total Credits _____

YEAR 3	SEMESTER 1				Electives	
	Milestones	Grade	Credits	Concentration	Credits	
	*PHYS 3010 – Electromagnetism & Nonlinear Optics			3		
	*PHYS 3011 – Electromagnetism & Nonlinear Optics Laboratory			1	Science	
	*PHYS 4100 – Modern Physics			3	Academic	
	*MATH 3160 – Ordinary Differential Equations			3		
*BIOL 1020 – Biology Principles 2			3			
*BIOL 1021 – Biology Principles Laboratory 2			1			

* Classes require a minimum grade of C to pass. Semester Credits _____

Total Credits _____

SEMESTER 2	Milestones	Grade	Credits	Electives		
				Concentration	Credits	
	*PHYS 3291 – Computational Condensed Matter			3		
	*PHYS 3710 – Thermodynamics & Statistical Mechanics			3	Science	
	CHEM 3210 – Chemical Thermodynamics			3	Academic	
	Electives – See the list below			3		
HIST 1010, HIST 1020, HIST 2010, or HIST 2020 –			3			

* Classes require a minimum grade of C to pass. Semester Credits _____

Total Credits _____



- Apply to graduate school(s).

- Verify requirements for schools of your choice.

YEAR 4	SEMESTER 1				Electives	
	Milestones	Grade	Credits	Concentration	Credits	
	*PHYS 4520 – Quantum Mechanics in Physics			3		
	*PHYS 4930 – Capstone Course in Physics			3	Science	
	Electives – See the list below			3	Academic	
	GEOG 1010, ANTH 1510, ECON 2000, PSCI 2010, or PHIL 1010 –			3		
PSYC 1010, PSYC 2050, SOC 1010, or EPSY 2020 –			3			

* Classes require a minimum grade of C to pass. Semester Credits _____

Total Credits _____

SEMESTER 2	Milestones	Grade	Credits	Electives		
				Concentration	Credits	
	*PHYS 4940 – Scientific Communication			3		35
	*CHEM 3220 – Chemical Kinetic & Quantum Mechanics			3	Science	9
	FA 1040 – Exploring The Arts			3	Academic	11
	Electives – See the list below			5		

* Classes require a minimum grade of C to pass. Semester Credits _____

Total Credits **120**

YOU'VE FINISHED!



Milestone

Should be taken in order to stay on track for graduation and professional school readiness.



Physics Course

This is for physics concentration, for other concentration or majors, consult with your advisor for any suggested changes.



Physical Science Course



GRADUATION REQUIREMENTS

Semester = 120, Physical Sciences = 30, Physics Concentration = 35, Science Electives = 9, Academic Electives = 11



List of Electives	# of credits
PHYS 3900 – Special Topics in Physics	1
CHEM 2110 - Quantitative Analysis	3
CHEM 2111 - Quantitative Analysis Laboratory	1
CHEM 2120 - Introduction to Instrumental Analysis	3
CHEM 2121 - Introduction to Instrumental Analysis Laboratory	1
CHEM 2140 - Inorganic Chemistry	3
CHEM 2141 - Inorganic Chemistry Laboratory	1
CHEM 3210 – Chemical Thermodynamics	3
CHEM 3221 - Physical Chemistry Laboratory	2
MATH 1100 – Precalculus Mathematics	6
BIOL 3060 - Biostatistics	3

- **Science electives:** Students may select any course from Physics, Chemistry, Mathematics, or Biology.
- **Academic Electives:** Students are limited to a maximum of 6 hours of 1000-level courses.