PHYSICS, BACHELOR OF SCIENCE WITH A CONCENTRATION IN PHYSICS EDUCATION

To obtain a B.S. with a major in Physics, a student must fulfill university, college, and departmental requirements.

Physics, Bachelor of Science with a Concentration in Physics Education Requirements

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Code	Title	Credits
GENERAL EDUCATION REQUIREMENTS - 34 Hours Required		
Minimum of "C-"required		
Fundamental Skills		**15**
Writing – 6 hrs.		
ENGL 1150	ENGLISH COMPOSITION I	
ENGL 1160	COLLEGE RESEARCH AND INFORMATION LITERACY	
Oral Communication – 3 hrs.		
CMST 1110	PUBLIC SPEAKING FUNDS	
or CMST 2120	ARGUMENTATION AND DEBATE	
Quantitative Literacy – 3 hrs.		
MATH 1120	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING	
or MATH 1130	QUANTITATIVE LITERACY	
or MATH 1140	QUANTITATIVE REASONING FOR HEALTHCARE PROFESSIONALS	
or MATH 1300	COLLEGE ALGEBRA WITH SUPPORT	
Data Literacy – 3 hrs.		
Select one from the following:		
STAT 1100	DATA LITERACY AND VISUALIZATION	
STAT 1530	ELEMENTARY STATISTICS	
Until Fall 2028, students can satisfy this requirement with an approved data literacy course, or any approved natural or social science general education course.		
Breadth of Knowledge		**13**
Social Science – 3 hrs.		
Humanities – 3 hrs.		
Natural & Physical Science (must complete a lab) – 4 hrs.		
Arts – 3 hrs.		
Individual and Social Responsibility		**6**
Cultural Knowledge – 3 hrs.		
Civic Knowledge and Engagement – 3 hrs.		
MAJOR REQUIREMENTS		
**Course will satisfy UNO's General Education requirement		
^Course requires pre-requisite(s)		
Physics Major with a Concentration in Physics Education - 95 Hours Required		
A Bachelor of Science in physics with a concentration in education leads to a physics teaching certificate at the secondary-school level. In some cases, it is possible to earn both a B.S. in physics and a B.S. in secondary education.		
Required Coursework		**56**
PHYS 1350 & PHYS 1354	PRINCIPLES OF ASTRONOMY and INTRODUCTORY ASTRONOMY LAB	
PHYS 1950	PHYSICS GATEWAY COURSE	
PHYS 2110 & PHYS 1154	GENERAL PHYSICS I - CALCULUS LEVEL and GENERAL PHYSICS LABORATORY I (**)	
PHYS 2120 & PHYS 1164	GENERAL PHYSICS II-CALCULUS LEVEL and GENERAL PHYSICS LABORATORY II	
PHYS 2130	MODERN PHYSICS	
PHYS 3250	MATHEMATICAL METHODS OF PHYSICS	
PHYS 3300	INTRODUCTION TO BIOMEDICAL PHYSICS	
PHYS 3450	CLASSICAL MECHANICS	
PHYS 3504	EXPERIMENTAL PHYSICS I	
PHYS 3600	THERMODYNAMICS AND STATISTICAL PHYSICS	
PHYS 3750	ELECTRICITY AND MAGNETISM I	
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY (**)	
MATH 1950	CALCULUS I (Requires MATH 1330 or MATH 1340)	
MATH 1960	CALCULUS II	
MATH 1970	CALCULUS III	
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY (**)	
Additional Requirements for Educator Preparation include a Major Field Test and Local Test		
Select all of the following Educator Preparation Program Requirements		**27**
TED 2100	EDUCATIONAL FOUNDATIONS (^)	
TED 2200	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS (** ^)	
or TED 2060	EQUITY, LANGUAGE, AND CULTURAL LITERACY	
TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE	
TED 2400	PLANNING FOR EFFECTIVE TEACHING	
TED 3550	SECONDARY CLASSROOM MANAGEMENT (^)	
TED 3690	LITERACY AND LEARNING (^)	
TED 4000	SPECIAL METHODS IN THE CONTENT AREA (^)	
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES (^)	
In addition, earning the grades 6-12 Nebraska Teaching Certificate requires a semester of Clinical Practice		**12**
TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL (^)	
College Breadth		
College of Arts and Sciences' college breadth requirement satisfied by this major		
Bachelor Science Cognate Requirement		
Cognate requirement is satisfied within the major.		
ELECTIVES		
Elective hours as required to reach a total of 120 hours		

Physics, Bachelor of Science with a Concentration in Physics Education Four Year Plan

Freshman

Fall		Credits
PHYS 1350 & PHYS 1354	PRINCIPLES OF ASTRONOMY and INTRODUCTORY ASTRONOMY LAB	4
CMST 1110	PUBLIC SPEAKING FUNDS	3
ENGL 1150	ENGLISH COMPOSITION I	3
MATH 1950	CALCULUS I	5
PHYS 1950	PHYSICS GATEWAY COURSE	1
Attend Durango Days; other campus events. Set up a Handshake account and take the Pathway U career assessment. Attend the Student Involvement & Volunteer Fair to explore student organizations. Make advising appointment for spring: Sept-Oct. Work with your advisor to develop your Pathway in Stellic.		
	Credits	**16**
Spring		
ENGL 1160	COLLEGE RESEARCH AND INFORMATION LITERACY	3
MATH 1960	CALCULUS II	4
PHYS 2110 & PHYS 1154	GENERAL PHYSICS I - CALCULUS LEVEL and GENERAL PHYSICS LABORATORY I	5
General Education Course or Elective		3
Attend campus events such as major exploration week to get an idea of interests and career paths. Schedule a resume review with UNO Career Services. Visit faculty office hours and ask about undergraduate research opportunities. Make advising appointment for summer and fall: February – March.		
	Credits	**15**

Sophomore

Fall		
MATH 1970	CALCULUS III	4
PHYS 2120 & PHYS 1164	GENERAL PHYSICS II-CALCULUS LEVEL and GENERAL PHYSICS LABORATORY II	5
TED 2100	EDUCATIONAL FOUNDATIONS	3
TED 2200 or TED 2060	HUMAN RELATIONS FOR BIAS-FREE CLASSROOMS or EQUITY, LANGUAGE, AND CULTURAL LITERACY	3
Required: Apply for Educator Preparation Program at this time.		
Attend the Career & Internship Fair to start networking with employers. Look for volunteer, research, or part-time work to gain experience. Join a student organization or club related to your field or interests. Make advising appointment for spring: Sept. - Oct.		
Recommended but not required: Pass the Praxis CORE Academic Skills.		
	Credits	**15**
Spring		
PHYS 2130	MODERN PHYSICS	4
PHYS 3250	MATHEMATICAL METHODS OF PHYSICS	3
TED 2380	DEVELOPMENT AND LEARNING IN ADOLESCENCE	3
TED 2400	PLANNING FOR EFFECTIVE TEACHING (*)	6
*TED 2400 and 2380 must be taken back-to-back, in either a Morning or Afternoon block.		
Required: Pass Praxis CORE Academic Skills by the end of this semester.		
Required: Acceptance into Educator Preparation Program. Must have 2.75 GPA.		
Attend a career fair for informational and networking purposes. Update your resume and LinkedIn profile with new experiences. Investigate and apply for summer internships, research, or study abroad programs. Make advising appointment for summer and fall: February – March.		
	Credits	**16**

Junior

Fall		
PHYS 3600	THERMODYNAMICS AND STATISTICAL PHYSICS	3
PHYS 3504	EXPERIMENTAL PHYSICS I	1
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4
General Education Course or Elective		3
General Education Course or Elective		4
Apply for a paid internship or research assistantship. Attend a mock interview workshop or use online interview tools with Career Services. Start researching and visiting graduate programs or professional schools. Visit Career Center, continue updating resume. Make advising appointment for spring: Sept-Oct.		
	Credits	**15**
Spring		
PHYS 3450	CLASSICAL MECHANICS	3
PHYS 3300	INTRODUCTION TO BIOMEDICAL PHYSICS	3
TED 3550	SECONDARY CLASSROOM MANAGEMENT (*)	3
TED 3690	LITERACY AND LEARNING (*)	3
General Education Course or Elective		3
*TED 3550 and TED 3690 must be taken back-to-back, in either a Morning or Afternoon block.		
Request letters of recommendation from faculty for jobs or grad school. Attend the All-Majors Career Fair with a plan to network. Meet with your advisor or submit for a graduation check-in to review remaining degree requirements. Make advising appointment for summer and fall: February – March.		
	Credits	**15**

Senior

Fall		
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY	4
SPED 3800	DIFFERENTIATION AND INCLUSIVE PRACTICES	3
PHYS 3750	ELECTRICITY AND MAGNETISM I	3
TED 4000	SPECIAL METHODS IN THE CONTENT AREA	3
General Education Course or Elective		3
*SPED 3800: Must be taken concurrently with TED 4000 or TED 3550		

	Check in with Career Center for networking tips. Finalize graduate school applications or job search strategy. Attend a career fair and start applying for full-time jobs. Prepare for interviews and salary negotiations with Career Services. Make advising appointment for spring: Sept. - Oct.	
	Credits	**16**
Spring		
TED 4600	CLINICAL PRACTICE AND SEMINAR: ELEMENTARY OR SECONDARY LEVEL	12
	Complete your final advising check before graduation. Polish your resume, cover letters, and LinkedIn profile. Stay connected by joining alumni networks and professional organizations. Apply for graduation via MavLink.	
	Credits	**12**
	Total Credits	**120**

Upper Level Credits: Students need 27 upper level credits throughout the degree with at least 18 upper level credits within the major. Electives may need to be selected at the 3000-4000 level to reach these minimums.

Additional Information About this Plan:
University Degree Requirements: The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

Placement Exams: For Math, English, World Language, a placement exam may be required. More information on these exams can be found at https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php

Transfer credit or placement exam scores may change suggested plan of study.

GPA Requirements: 2.75

Graduation Requirements: Major Field Test, Local Test. For Teaching Certificate: Completion of Praxis CORE

Note: This plan provides a general guide, but your specific courses, experiences, and career goals may differ. Work with your academic advisor to ensure you're meeting degree requirements and consult with career advisors to explore internships, research opportunities, and post-graduation plans. Regular check-ins will help you stay on track and make the most of your time at UNO!