

**COLLEGE OF HUMAN DEVELOPMENT & EDUCATION**

**MAJOR: PHYSICS EDUCATION**

**ACADEMIC YEAR: 2013-2014**

**DEGREE TYPE: B.A. or B.S.**

**REQUIRED DEGREE CREDITS TO GRADUATE: 148**

**GENERAL EDUCATION REQUIREMENTS – 40 CREDITS**

**Lower Division Requirements – 37 Credits**

First Year Experience (F) - 1 Credit

HD&E	189	Skills for Academic Success	1 cr
Students transferring in 24 or more credits do not need to take HD&E 189.			

Communication (C) - 9 Credits

ENGL	110	College Composition I	3 cr
ENGL	120	College Composition II	3 cr
COMM	110	Fund of Public Speaking	3 cr

Quantitative Reasoning (R) - 3 Credits

STAT	330	Introductory Statistics	3 cr
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Science & Technology (S) - 10 Credits

CSCI	114 or	Microcomputer Packages	3 or 4 cr
	116	Business Use of Computers	
BIOL	124/L	Environmental Science/Lab	3/1 cr
CHEM	121 or	General Chemistry I	3 cr
	150	Principles of Chemistry I	

Humanities & Fine Arts (A) - 6 Credits

Select from current general education courses [www.ndsu.edu/registrar/gened/](http://www.ndsu.edu/registrar/gened/)

Social & Behavioral Sciences (B) - 6 Credits

Select from current general education courses [www.ndsu.edu/registrar/gened/](http://www.ndsu.edu/registrar/gened/)

Wellness (W) - 2 Credits

Select from current general education courses [www.ndsu.edu/registrar/gened/](http://www.ndsu.edu/registrar/gened/)

Cultural Diversity (D)

Select from current general education courses [www.ndsu.edu/registrar/gened/](http://www.ndsu.edu/registrar/gened/)

Global Perspectives (G)

GEOL	105	Physical Geology	
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**Upper Division Requirements - Writing – 3 Credits**

ENGL	324	Writing in the Sciences	3 cr
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**Bachelor of Arts (BA) Degree** – An additional 6 credits of Humanities and Social Sciences and proficiency at the second year in a modern foreign language are required.

**TEACHING SPECIALITY REQUIREMENTS – 77 Credits**

CHEM	121L or	General Chemistry I Lab	1 cr
	160	Principles of Chemistry I Lab	
CHEM	122/L or	General Chemistry II/Lab	3/1 cr
	151/161	Principles of Chemistry II/Lab	
CHEM	300-400	Level Elective Course/Lab	3/1 cr
GEOL	105/L	Physical Geology/Lab	3/1 cr
GEOL	106/L	The Earth Through Time/Lab	3/1 cr
MATH	129*	Basic Linear Algebra	2 cr
MATH	165	Calculus I	4 cr
MATH	166	Calculus II	4 cr
MATH	265	Calculus III	4 cr
MATH	266	Intro/Differential Equations	3 cr
PHYS	110	Introductory Astronomy	3 cr
PHYS	171	Introductory Projects in Physics	1 cr
PHYS	215	Research for Undergraduates	1 cr
PHYS	251/L	University Physics I/Lab	4/1 cr
PHYS	251R	University Physics I Recitation	1 cr
PHYS	252/L	University Physics II/Lab	4/1 cr
PHYS	252R	University Physics II Recitation	1 cr
PHYS	300-400	Level Elective Course	3 cr
PHYS	350	Modern Physics	3 cr
PHYS	360	Modern Physics II	3 cr
PHYS	361 or	Electromagnetic Theory	3 or 4 cr
	370	Electromagnetic Theory (MSUM)	
PHYS	411/L	Optics for Scientists & Engineers/Lab	3/1 cr
PHYS	455 or	Classical Mechanics	3 or 4 cr
	330	Intermediate Mechanics (MSUM)	
PHYS	462	Heat and Thermodynamics	3 cr
PHYS	485	Quantum Mechanics I	3 cr
PHYS	491	Seminar	1 cr

**PROFESSIONAL EDUCATION REQUIREMENTS - 31 CREDITS**

EDUC	321	Introduction to Teaching	3 cr
EDUC	322	Educational Psychology	3 cr
EDUC	451	Instructional Planning, Methods & Assessment	3 cr
EDUC	481	Classroom Prac/Meth of Teach I-Science	3 cr
EDUC	485	Student Teaching Seminar	1 cr
EDUC	486	Classroom Management for Diverse Learners	3 cr
EDUC	487	Student Teaching Elementary/Secondary	9 cr
EDUC	488	Applied Student Teaching	3 cr
EDUC	489	Native Americans & Multicultural Instr Prac	3 cr

**Degree Requirements and Notes:**

- \*MATH 429 Linear Algebra may substitute for MATH 129.
- A GPA of 2.75 or better in the teaching specialty is required for placement in student teaching and exit from the program.
- A GPA of 2.75 or better in the professional education requirements as well as passing the appropriate Praxis II exam are required to exit the program. A grade of 'C' or better is required in all Professional Education Requirement courses.
- Courses taken *Pass/Fail* will not be used to satisfy any requirements other than total credits.
- See School of Education for admission requirements.