

Winona State University				Four Year Map				
Physics Teaching				License to teach Physics and Physical Science 9-12 in MN				
Fall Year 1		Spring Year 1		Fall Year 2		Spring Year 2		
Course	Requirement Met	SH	Course	Requirement Met	SH	Course	Requirement Met	
Chemistry 212, Principles of Chemistry I	GE Goal 3/Major	4	Chemistry 213, Principles of Chemistry II	GE Goal 3/Major	4	Math 212, Calculus 1	GE Goal 4/Major	
Math 120, PreCalc	GE Goal 4	4	Math 212, Calculus 1	GE Goal 4/Major	4	Math 313, Differential Equations	Major	
English 111, College Rdg/Wrt	GE Goal 1	4	Communication Studies 191	GE Goal 1	3	Math 314, Linear Algebra and Diff Eq	Major	
OR 100, Intro to Higher Education	Gen Elective	1	Physics 221, University Physics 1	GE Goal 3/Major	4	Physics 310, Optics	Major/Min	
General Education Elective (double count)	GE Goal 5/6/7/8/9/10	3	Physics 231, University Physics 1B	Major	1	EDFD 401, Human Dev/Learning: Secondary	Major	
Phys 099, The Career Physicist	Major	0	Phys 099, The Career Physicist	Major	0	EDFD 461, Multicultural Youth, Children &	Major	
<b>Notes:</b> May swap Eng 111 with CMST 191 in Spring; check for admission re				<b>Notes:</b> track admission requirements				
Total SH		16	Total SH		16			
<b>Fall Year 3</b>				<b>Spring Year 3</b>				
Course	Requirement Met	SH	Course	Requirement Met	SH			
Math 213, Calculus 2	GE Goal 3/Major	4	Physics 340, Modern Physics	Major/Min	4			
Physics 222, University Physics 2	GE Goal 3/Major	4	Math 313, Differential Equations	Major	3			
Physics 232, University Physics 2B	Major	1	Math 314, Linear Algebra and Diff Eq	Major	1			
SPEE 300	Major	3	Physics 310, Optics	Major/Min	4			
HERS 204	Major/PDW	3	EDFD 401, Human Dev/Learning: Secondary	Major	2			
General Education Elective (double count)	GE Goal 5/6/7/8/9/10	3	EDFD 461, Multicultural Youth, Children &	Major	2			
<b>Notes:</b> Apply for admission to Teacher Ed; see admission requirements				<b>Notes:</b> EDFD 401 and 461 must be taken concurrently				
Total SH		18	Total SH		16			
<b>Fall Year 4</b>				<b>Spring Year 4</b>				
Course	Requirement Met	SH	Course	Requirement Met	SH			
Physics 350, Mechanics	Major	4	Physics 345, Thermodynamics and Statistic	Major/CAI	4			
Physics 330, Electronics	Major/Min	4	General Education Elective (double count)	GE Goal 5/6/7/8/9/10	3			
EDFD 421 Classroom Mgt: K-12 & 5-12	Major	1	General Education Elective	GE Goal 5/6/7/8/9/10	3			
EDFD 441, Curriculum, Instr, & Assessment	Major	3	Phys or Chem 312, Practical Considerations	Major	2			
Phys 311, Science Teaching Methods	Major	4	EDFD 459 Professional Educator	Major	2			
Phys 099, The Career Physicist	Major	0	EDFD 462 Multicult Youth, Children & Fam	Major	1			
<b>Notes:</b> EDFD 421 and 441 must be taken concurrently				<b>Notes:</b> Ed 459 and 462 must be taken concurrently; apply for student teaching				
Total SH		16	Total SH		15			
<b>Fall Year 4</b>				<b>Spring Year 4</b>				
Course	Requirement Met	SH	Course	Requirement Met	SH			
EDUC 429, Secondary Reading and Teaching	Major	3	EDST 465 - Student Teaching	Major/DB	12			
Physics 460, Undergraduate Research	Major/CAI	2						
Physics 320, Computational	Major	2						
General Education Elective	GE Goal 5/6/7/8/9/10	3						
General Education Elective	GE Goal 5/6/7/8/9/10	3						
General Education Elective	GE Goal 5/6/7/8/9/10	3						
<b>Notes:</b>				<b>Notes:</b> Apply for graduation				
Total SH		16	Total SH		12			

Updated on 9/17/20

Key:

GE goal	General Education Goal Area
GE	A general elective that counts toward graduation but does not count toward the major, minor or General Education Goal Area
Major	Satisfies a major requirement
Minor	Satisfies a minor requirement
Major E	Satisfies a major elective
CAI	Critical Analysis Intensive
OI	Oral Intensive
WI	Written Intensive
PDW	Personal Development and Wellness

General Education Goals (please see website for more information)

Goal 1	Communication (7 credits)
Goal 2	Critical Thinking (met when all other goals met)
Goal 3	Natural Science (7 credits)
Goal 4	Mathematics/Logical Reasoning (3 - 4 credits)
Goal 5	Social/Behavioral Sciences (9 SH)
Goal 6	Humanities and Fine Arts (9 credits)
Goal 7	Human Diversity (3 SH)
Goal 8	Global Perspective (3 SH)
Goal 9	Ethic and Civic Responsibility (3 SH)
Goal 10	People and the Environment (3 SH)

For WI licensure, take