



Winona State University  
**Four-Year Program Map**

Created on 5/24/2017  
 Effective Fall 2017

**Program:** Physics Option II (BS PHYE)  
**Emphasis (optional):** Electronics

Fall Semester				Spring Semester		
	Course	Requirement Met	SH	Course	Requirement Met	SH
<b>Year 1</b>	ENG 111 College Reading & Writing	GE Goal 1	4	CMST 191 Introduction to Public Speaking	GE Goal 1	3
	MATH 120 Precalculus	GE Goal 4	4	MATH 212 Calculus I	Major	4
	CHEM 212 Principles of Chemistry I	GE Goal 3/Major	4	CHEM 213 Principles of Chemistry II	GE Goal 3/Major	4
	General Education Course	GE Goal 5-10	3	PHYS 221 University Physics	Major	4
	OR 100 Intro to Higher Education	Recommended	1	PHYS 231 University Physics IB	Major	1
	PHYS 099 The Career Physicist*	Major	0	PHYS 099 The Career Physicist*	Major	0
	<i>NOTE: *PHYS 099 must be passed four times, twice during your first year and twice during your junior year.</i>			<i>NOTE: General Education Courses can be taken any time during any semester.</i>		
<b>First-Year Fall Semester Credit Hour Total</b>			<b>16</b>	<b>First-Year Spring Semester Credit Hour Total</b>		<b>16</b>
<b>Year 2</b>	MATH 213 Calculus II	Major	4	PHYS 340 Modern Physics	Major/WI	4
	PHYS 222 University Physics II	Major	4	MATH 313 Differential Equations	Major/CAI	3
	PHYS 232 University Physics IIB	Major	1	PHYS 328 Electrical Circuits and Measurements I	Major	4
	CS 234 Algorithms and Problem-Solving I	Major	4	General Education Course	GE Goal 5-10	3
	General Education Course	GE Goal 5-10	3	Personal Development & Wellness	PDW	2
	<i>NOTE: To remain under 120 credits, take courses that meet two goal areas within GOALS 5-10.</i>			<i>NOTE: Students must earn 40 S.H. credits that are 300 &amp; 400 Level Courses.</i>		
<b>Second-Year Fall Semester Credit Hour Total</b>			<b>16</b>	<b>Second-Year Spring Semester Credit Hour Total</b>		<b>16</b>
<b>Year 3</b>	General Education Course	GE Goal 5-10	3	PHYS 333 Microprocessor Electronics	Major	3
	PHYS 330 Electronics	Major/WI	4	Physics Elective**	Major Elective	4
	MATH 312 Multivariable Calculus	Major	4	PHYS 420 Control Theory	Major	3
	PHYS 332 Digital Circuits	Major	3	General Education Course	GE Goal 5-10	3
	General Education Course	GE Goal 5-10	3	PHYS 099 The Career Physicist*	Major	0
	PHYS 099 The Career Physicist*	Major	0			
<i>NOTE: Many of the courses offered in Year 3 and Year 4 are offered every other year and so the Year 3 and Year 4 might be flipped.</i>			<i>NOTE: Talk to your advisor about post-graduation plans.</i>			
<b>Third-Year Fall Semester Credit Hour Total</b>			<b>17</b>	<b>Third-Year Spring Semester Credit Hour Total</b>		<b>13</b>
<b>Year 4</b>	PHYS 430 Electromagnetic Theory I	Major	3	PHYS 460 Undergraduate Research	Major/OI	2
	PHYS 460 Undergraduate Research	Major/OI	2	Physics Elective**	Major Elective	3
	Physics Elective**	Major Elective	3	General Education Course	GE Goal 5-10	3
	PHYS 320 Computational Physics	Major	2	General Education Course	GE Goal 5-10	3
	General Education Course	GE Goal 5-10	3	General Elective Course	Elective	2
<i>NOTE: For a full list of courses offered for Physics Electives, please refer to DARS, 10 S.H. required to meet this major goal.</i>			<i>NOTE: All major courses must be taken for a grade except for internship.</i>			
<b>Fourth-Year Fall Semester Credit Hour Total</b>			<b>13</b>	<b>Fourth-Year Spring Semester Credit Hour Total</b>		<b>12</b>

Total Credit Hours (SH): 120

Guide to 4 Year Major Maps

- 4 Year Major Maps are intended to show a recommended four-year pathway to a degree. Students must be fulltime, college ready, and ready to declare a major to follow the map exactly as shown. Maps are only a sample; there may be other pathways that lead to completion of the degree in four years.
- Major Maps are NOT intended to take the place of meetings with advisors.
- Major Maps are NOT intended to take the place of the Degree Audit System (DARs).

All courses listed on a major map will be labelled as one or more of the following:

GE Goal	General Education Goal Area	Indicates that the course meets one of the 10 General Education Goals
Gen Elec	General Elective	Indicates that the course does not meet a General Education, Major or Minor requirement but does count toward the degree
Major	Major Requirement	Indicates that the course meets a Major requirement
Major Elec	Major Elective	Indicates that the course counts toward the major as an elective, must be chosen from list of approved courses
Minor	Minor Requirement	Indicates that the course meets a Minor requirement
CAI	Critical Analysis Intensive	Indicates that the course counts as a Critical Analysis Intensive
OI	Oral Intensive	Indicates that the course counts as an Oral Intensive
WI	Written Intensive	Indicates that the course counts as a Written Intensive
PDW	Personal Development and Wellness	Indicates that the course counts as a Personal Development and Wellness Requirement

General Education Goal Areas:

		Minimum credits required
Goal 1	Communication	7 credits
Goal 2	Critical Thinking (Met with completion of all other goal areas)	--
Goal 3	Natural Science	7 credits
Goal 4	Mathematics	3-4 credits
Goal 5	History, Social/Behavioral Sciences	9 credits
Goal 6	Humanities and Fine Arts	9 credits
Goal 7	Human Diversity	3 credits
Goal 8	Global Perspective	3 credits
Goal 9	Ethic and Civic Responsibility	3 credits
Goal 10	People and the Environment	3 credits

Graduation Requirements:

- Minimum of 120 total credits (semester hours) required for Bachelors' Degree
- Minimum of 40 General Education credits required
- Minimum of 40 Upper Division credits required
- Minimum of 30 Residence credits required in Junior/Senior years
- Minimum WSU cumulative grade point average of 2.00; some programs require higher grade point averages

Major Maps are not contracts. Winona State University reserves the right to make changes at any time, without prior notice, to programs, policies, procedures and information described in this major map. Students should consult the appropriate academic department or college for currently accurate program information.