Winona State University
Four-Year Program Map

Created on 11/15/2018
Effective Fall 2018

Program: **Physics Option I (BS PHYP)**
Emphasis (optional):

	Fall Semester			Spring Semester		
	Course	**Requirement Met**	**SH**	**Course**	**Requirement Met**	**SH**
Year 1	CHEM 212 Principles of Chemistry I	GE Goal 3/Major	4	CHEM 213 Principles of Chemistry II	GE Goal 3/Major	4
	MATH 120 Precalculus	GE Goal 4	4	MATH 212 Calculus I	GE Goal 4/Major	4
	ENG 111 College Reading & Writing*	GE Goal 1	4	CMST 191 Introduction to Public Speaking	GE Goal 1	3
	OR 100 Introduction to Higher Education	Recommended	1	PHYS 221 University Physics I	GE Goal 3/Major	4
	General Education Course**	GE Goal 5-10	3	PHYS 231 University Physics IB	Major	1
	PHYS 099 The Career Physicist***	Major	0	PHYS 099 The Career Physicist	Major	0
	*NOTE: *May swap ENG 111 with CMST 191 in Spring. **To remain under 120 credits, take courses that meet two goal areas within Goals 5-10. ***PHYS 099 must be passed four times, twice during first year and twice during Junior year.*			*NOTE:*		
	First-Year Fall Semester Credit Hour Total		**16**	**First-Year Spring Semester Credit Hour Total**		**16**
Year 2	MATH 213 Calculus II	GE Goal 4/Major	4	PHYS 340 Modern Physics	Major/WI	4
	PHYS 222 University Physics II	GE Goal 3/Major	4	MATH 313 Differential Equations	Major/CAI	3
	PHYS 232 University Physics IIB	Major	1	MATH 314 Linear Algebra for Differential Equations	Major	1
	General Education Course	GE Goal 5-10	3	General Education Course	GE Goal 5-10	3
	General Education Course	GE Goal 5-10	3	MATH 312 Multivariable Calculus	Major/CAI	4
	NOTE: Students must earn 40 S.H. credits of 300 & 400 level courses.			*NOTE: *Students must earn a minimum of 40 S.H. from Goals 1-10.*		
	Second-Year Fall Semester Credit Hour Total		**15**	**Second-Year Spring Semester Credit Hour Total**		**15**
Year 3	PHYS 350 Mechanics	Major	4	PHYS 345 Thermodynamics & Statistical Physics	Major/CAI	4
	PHYS 330 Electronics	Major/WI	4	Physics Elective*	Major Elective	2
	General Education Course	GE Goal 5-10	3	General Education Course	GE Goal 5-10	3
	PHYS 099 The Career Physicist***	Major	0	General Education Course	GE Goal 5-10	3
	PHYS 451 Quantum Mechanics	Major	3	PHYS 099 The Career Physicist	Major	0
	Physical Development & Wellness	PDW	1	Physical Development & Wellness	PDW	1
	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. If you haven't yet, talk to your advisor about post graduation plans.			*NOTE: *For a full list of Physics Elective Courses, please refer to DARS. A total of 5 S.H. must be taken in order to meet this major goal.*		
	Third-Year Fall Semester Credit Hour Total		**15**	**Third-Year Spring Semester Credit Hour Total**		**13**
Year 4	PHYS 430 Electromagnetic Theory I	Major/CAI	3	PHYS 431 Electromagnetic Theory II	Major	3
	PHYS 460 Undergraduate Research	Major/OI	2	PHYS 370 Optics	Major/WI	4
	MATH 413 Advanced Applied Mathematics or PHYS 440 Mathematical Methods in Physics I	Major	3	PHYS 460 Undergraduate Research	Major/OI	2
	PHYS 320 Computational Physics	Major	2	Physics Elective	Major Elective	3
	General Education Course	GE Goal 5-10	3	General Education Course	GE Goal 5-10	3
	General Elective Course	Elective	2			
	NOTE:			*NOTE: Apply for graduation.*		
	Fourth-Year Fall Semester Credit Hour Total		**15**	**Fourth-Year Spring Semester Credit Hour Total**		**15**

Total Credit Hours (SH): 120

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Created on 4/5/2016
Effective Fall 2016

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