



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 |
| Year 1 | 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 Chemisty 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 |
| | NOTE: *PHYS 099 must be passed four times, twice during your first year and twice during your junior year. | | | NOTE: General Education Courses can be taken any time during any semester. | | |
| | First-Year Fall Semester Credit Hour Total | | 16 | First-Year Spring Semester Credit Hour Total | | 16 |
| Year 2 | 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 |
| | NOTE: To remain under 120 credits, take courses that meet two goal areas within GOALS 5-10. | | | NOTE: Students must earn 40 S.H. credits that are 300 & 400 Level Courses. | | |
| | Second-Year Fall Semester Credit Hour Total | | 16 | Second-Year Spring Semester Credit Hour Total | | 16 |
| Year 3 | 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 | | | |
| | 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. | | | NOTE: Talk to your advisor about post-graduation plans. | | |
| Third-Year Fall Semester Credit Hour Total | | 17 | Third-Year Spring Semester Credit Hour Total | | 13 | |
| Year 4 | 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 |
| | NOTE: For a full list of courses offered for Physics Electives, please refer to DARS, 10 S.H. required to meet this major goal. | | | NOTE: All major courses must be taken for a grade except for internship. | | |
| | Fourth-Year Fall Semester Credit Hour Total | | 13 | Fourth-Year Spring Semester Credit Hour Total | | 12 |

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.