

# PHYSICS (M.A.)

For some students, the master's degree will be used as part of a continuing Ph.D. program; for others, it will be a terminal degree leading to employment in government laboratories, industrial programs, hospitals, teaching positions, and other occupations. The Master of Arts with a major in Physics is offered under Plan B, as described on the next tab.

## Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (<http://bulletins.wayne.edu/graduate/general-information/admission/>). In addition, applicants must satisfy the following criteria.

## Prerequisite Preparation

Prerequisite preparation should include:

| Code | Title | Credits |
|------|-------|---------|
|------|-------|---------|

A minimum of general college physics with laboratory equivalent to:

|          |                                      |  |
|----------|--------------------------------------|--|
| PHY 2170 | University Physics for Scientists I  |  |
| PHY 2180 | University Physics for Scientists II |  |
| PHY 3300 | Introductory Modern Physics          |  |

Fifteen credits in intermediate physics courses, for example, those equivalent to the following:

|          |  |  |
|----------|--|--|
| PHY 5100 | Methods of Theoretical Physics I       |  |
| PHY 5200 | Classical Mechanics I                  |  |
| PHY 5210 | Classical Mechanics II                 |  |
| PHY 5340 | Optics                                 |  |
| PHY 6400 | Quantum Physics I                      |  |
| PHY 6410 | Quantum Physics II                     |  |
| PHY 6500 | Thermodynamics and Statistical Physics |  |
| PHY 6600 | Electromagnetic Fields I               |  |
| PHY 6610 | Electromagnetic Fields II              |  |
| PHY 6850 | Modern Physics Laboratory              |  |

Mathematics equivalent to mathematics prerequisites required in those physics courses

A minimum of general college chemistry with laboratory equivalent to:

|                        |   |  |
|------------------------|---|--|
| CHM 1100<br>& CHM 1130 | General Chemistry I<br>and General Chemistry I Laboratory |  |
|------------------------|---|--|

The Graduate Record Examination, both the General section and the Physics subject test, is strongly recommended as a counseling aid in preparing the student's plan of study.

The Master of Arts degree is offered by this Department only under the following option:

**Plan B:** *Twenty-nine credits in course work plus a three-credit essay.*

1. The following physics courses or their equivalents must be completed or must have been completed previously at the undergraduate level.

| Code     | Title                                  | Credits |
|----------|--|---------|
| PHY 5100 | Methods of Theoretical Physics I       | 3       |
| PHY 5210 | Classical Mechanics II                 | 3       |
| PHY 6400 | Quantum Physics I                      | 4       |
| PHY 6410 | Quantum Physics II                     | 3       |
| PHY 6500 | Thermodynamics and Statistical Physics | 4       |

|          |                           |   |
|----------|---------------------------|---|
| PHY 6600 | Electromagnetic Fields I  | 4 |
| PHY 6610 | Electromagnetic Fields II | 3 |

2. Mathematics equivalent to mathematics prerequisites required for the course work listed above.
3. At least nine credits of coursework in physics at the 7000-level or above (exclusive of PHY 7990, PHY 7996, PHY 7999, PHY 8995, PHY 8999).
4. PHY 7999 Master's Essay Direction.
5. A departmental final oral examination is required of all candidates.