

## PHYSICS MINOR FOR SECONDARY TEACHING

*Updated April 2011*

The Physics major for Secondary teachers consists of a minimum of 20 credits in Physics. Candidates for certification in this major must pass the Michigan Test for Teacher Certification (MTTC) in Physics (Test #19). You must demonstrate your knowledge in following categories:

| <b>Subarea</b>                                       | <b>Approximate % of Questions on Test</b> |
|--|---|
| 1. Foundations of Scientific Inquiry                 | 12%                                       |
| 2. Mechanics   | 24%                                       |
| 3. Electricity & Magnetism                           | 24%                                       |
| 4. Waves, Acoustics and Optics                       | 20%                                       |
| 5. Nature of Matter, Thermodynamics & Modern Physics | 20%                                       |

You may access a study guide at the MTTC testing site; the courses below have been selected so that you will be well prepared for the test.

The following chart is intended to provide you a guide for scheduling your semesters and for keeping track of your grade point average.

### PHYSICS REQUIRED CORE (20 credits)

| SUBJECT/<br>COURSE | TITLE                                | CREDIT<br>HOURS | SEMESTER | GRADE |
|--------------------|--------------------------------------|-----------------|----------|-------|
| PHYS 121           | General Physics I                    | 3               |          |       |
| PHYS 141           | Physics Lab I                        | 1               |          |       |
| PHYS 122           | General Physics II                   | 3               |          |       |
| PHYS 142           | Physics Lab II                       | 1               |          |       |
| PHYS 270           | Modern Physics                       | 4               |          |       |
| PHYS 361           | Analytical Mechanics                 | 4               |          |       |
| PHYS 280           | Introduction to Mathematical Physics | 2               |          |       |
| PHYS 281           | Intermediate Physics Lab             | 2               |          |       |

### A SCIENCE METHODS COURSE - REQUIRED (3 credits)

(The Science methods course is considered pedagogy and will be counted with your education courses for certification.)

| SUBJECT/<br>COURSE | TITLE   | CREDIT<br>HOURS | SEMESTER | GRADE |
|--------------------|---|-----------------|----------|-------|
| EDUC 331           | Teaching of Science in the Secondary School<br>(offered Fall Semester only)                 | 2               |          |       |
| EDUC 332           | Teaching of Science in the Secondary School<br>Field Placement (offered Fall Semester only) | 1               |          |       |

This **MUST** be completed prior to the student teaching semester!