

# Physics

## Major

## Minor

## Teaching certification option

### Professors:

Hoffman (Chair), Plitnik

### Associate Professors:

Doyle, Latta, Luzader, Tam

### Assistant Professor:

Deng-Luzader

- You may not use courses listed under the heading Physical Science to satisfy the requirements of a major or minor in Physics.
- FSU and the University of Maryland Baltimore County offer a BS/MS program in Applied Physics. (See the Applied Physics section of this catalog for more details).
- For engineering programs offered by the Dept. of Physics and Engineering, see the Engineering section of this catalog.
- There is a possibility that the discipline requirements of the major for teaching certification students will change in Fall 2000 as a result of the continuing analysis of NCATE program review requirements. Students interested in the teaching certification option should stay in close contact with the Department Chair and the Department of Educational Professions. It is to your advantage to complete an NCATE-approved program.

	For Major	For Minor	For Teaching Cert. Option
Hours Required in Physics:	39	21	39
Hours Required in Other Departments:	21-22	6	63.5-64.5
<b>Total Hours Required:</b>	<b>60-61</b>	<b>27</b>	<b>102.5-103.5</b>

## Summary of Requirements for Major/Minor in Physics

Major	Minor
<b>1. Introductory Level Courses:</b>	
<i>(8 hours)</i> PHYS 261 Principles of Physics I: Mechanics <i>(GEP LAC Group C)</i>	<i>(8 hours)</i> PHYS 261 Principles of Physics I: Mechanics <i>(GEP LAC Group C)</i>
PHYS 262 Principles of Physics II: Electricity & Magnetism	PHYS 262 Principles of Physics II: Electricity & Magnetism
<b>2. Advanced Courses:</b>	
<i>(21 hours)</i> PHYS 263 Principles of Phys. III: Sound/Light PHYS 264 Principles of Physics IV: Thermodynamics & Modern Physics PHYS 310 Classical Mechanics PHYS 312 Electricity & Magnetism PHYS 320 Experimental Physics PHYS 400 Senior Research & Seminar PHYS 491 Seminar	<i>(10 hours)</i> PHYS 263 Principles of Phys. III: Sound & Light PHYS 264 Principles of Physics IV: Thermodynamics & Modern Physics PHYS 320 Experimental Physics
<b>3. Elective Hours in Department:</b>	
<i>(10 hours)</i> With permission of the Department Chair, as many as 6 credits of mechanical engineering or electrical engineering at the 300 level or above may be applied.	<i>(3 hours)</i> Physics or engineering at the 300 level or above.
<b>4. Required Courses in Other Departments:</b>	
<i>(21-22 hours)</i> <i>One of the following:</i> COSC 200 Computer Science I or ENEE 114 Programming Concepts for Engineers <i>All of the following:</i> ENES 100 Intro. to Engineering Design MATH 226 Calculus I ( <i>GEP BR Math</i> ) MATH 227 Calculus II MATH 228 Calculus III MATH 320 Multivariable Calculus MATH 432 Differential Equations	<i>(6 hours)</i> MATH 226 Calculus I ( <i>GEP BR Math</i> ) MATH 227 Calculus II

## Summary of Requirements for Teaching Certification Option in Physics

If you wish to complete a Maryland State approved program in teaching Physics, you must:

- Complete the BA/BS in Physics.
- Meet the phase admissions requirements summarized in the Educational Professions section.
- Complete the professional education sequence described in Education: Secondary School Programs.

# Applied Physics

Hours Required at FSU	120
Hours Required at UMBC	21
Total Hours Required	141

## Bachelor's/Master's Collaborative Program

## Dual-degree Program

### Coordinator:

Joseph Hoffman, Chair  
Department of Physics  
and Engineering

- Frostburg State University students may apply three FSU physics courses (nine credit hours) towards an undergraduate degree in Physics from FSU and towards a master's degree in Applied Physics from the University of Maryland, Baltimore County. The three courses which have UMBC equivalents are:  
PHYS 312  
PHYS 313  
PHYS 417
- Since the Applied Physics program at UMBC normally requires 30 credit hours of graduate work, a student in the BS/MS program will be required to complete a minimum of only 141 hours to earn both the BS and MS degrees.

## Summary of Program Requirements at FSU:

1. Completion of all requirements for the physics major at Frostburg State University.
2. Completion of the following FSU courses as physics electives: PHYS 313 and PHYS 417.
3. Completion of all Frostburg State University general education and basic baccalaureate requirements.
4. Completion of a total of at least 120 semester hours at FSU.

## Requirements for Formal Admission to the Program through UMBC:

1. An application submitted to the FSU Physics Department Chair at the beginning of the junior year. This will include an application form, undergraduate transcripts, and three letters of recommendation.
2. A minimum cumulative grade point average of 3.0.
3. Formal application to the UMBC Graduate School for admission to the Applied Physics MS program by December of the senior year. Application procedures are described in the UMBC Graduate Catalog.