

**2003-05 Catalog Paradigm  
Physics – Even Year**

<b>First Year</b>	
1.	MT131 (GS8)
2.	MT132
3.	CS110
4.	PY121 (GS4)
5.	PY122
6.	General Education
7.	General Education
8.	General Education

<b>Second Year</b>	
1.	MT233
2.	MT310
3.	PY211
4.	PY241
5.	General Education
6.	General Education
7.	General Education
8.	Elective/Minor

<b>Third Year</b>	
1.	PY321
2.	PY225
3.	General Education
4.	General Education
5.	Elective/Minor
6.	Elective/Minor
7.	Elective/Minor
8.	Elective/Minor

<b>Fourth Year</b>	
1.	PY311
2.	PY325
3.	PY411
4.	General Education
5.	Elective/Minor
6.	Elective/Minor
7.	Elective/Minor
8.	Elective/Minor

Elective/Minor courses can be used to take additional major courses, free electives, or to fulfill a minor.

**Paradigm  
Physics – Odd Year**

<b>First Year</b>	
1.	MT131 (GS8)
2.	MT132
3.	CS110
4.	PY121 (GS4)
5.	PY122
6.	General Education
7.	General Education
8.	General Education

<b>Second Year</b>	
1.	MT233
2.	MT310
3.	PY211
4.	PY241
5.	PY225
6.	General Education
7.	General Education
8.	Elective/Minor

<b>Third Year</b>	
1.	PY311
2.	PY325
3.	PY411
4.	General Education
5.	General Education
6.	Elective/Minor
7.	Elective/Minor
8.	Elective/Minor

<b>Fourth Year</b>	
1.	PY321
2.	General Education
3.	General Education
4.	Elective/Minor
5.	Elective/Minor
6.	Elective/Minor
7.	Elective/Minor
8.	Elective/Minor

Elective/Minor courses can be used to take additional major courses, free electives, or to fulfill a minor.

## Progress Sheet Physics

Student Name: _____  Student ID: _____	
<b>General Education – Lower Biennium</b>	<b>Major</b>
<input type="checkbox"/> <b>GS1</b> – Religious Studies _____ <input type="checkbox"/> <b>GS2</b> – Philosophy of Human Nature _____ <input type="checkbox"/> <b>GS3</b> – Human Relationships _____ <input type="checkbox"/> <b>GS4</b> – Natural Science _____ <input type="checkbox"/> <b>GS5</b> – Creative Expression _____ <input type="checkbox"/> <b>GS6</b> – United States Heritage _____ <input type="checkbox"/> <b>GS7</b> – Foreign Heritages _____ <input type="checkbox"/> <b>GS8</b> – Quantitative Skills _____ <input type="checkbox"/> <b>GS9</b> – Writing _____ _____	<b>Required Courses:</b> <input type="checkbox"/> PY121 – General Physics I <input type="checkbox"/> PY122 – General Physics II <input type="checkbox"/> PY211 – Classical Mechanics <input type="checkbox"/> PY225 – Analog Circuits <input type="checkbox"/> PY241 – Modern Physics <input type="checkbox"/> PY311 – Thermal Physics <input type="checkbox"/> PY321 – Electromagnetism <input type="checkbox"/> PY325 – Digital Circuits <input type="checkbox"/> PY411 – Quantum Mechanics <input type="checkbox"/> MT131 – Calculus and Analytic Geometry I <input type="checkbox"/> MT132 – Calculus and Analytic Geometry II <input type="checkbox"/> MT233 – Calculus and Analytic Geometry III <input type="checkbox"/> MT310 – Differential Equations <input type="checkbox"/> CS110 – Introduction to Computer Programming
<b>General Education – Upper Biennium</b>	
<input type="checkbox"/> <b>GS1</b> – Religious Studies _____ <input type="checkbox"/> <b>GS10</b> – Western Tradition _____ <input type="checkbox"/> <b>GS11</b> – Global Society _____ <input type="checkbox"/> <b>GS12</b> – Senior Colloquium (GS400) _____ _____	Note –  Recommended courses include PY495, MT303, 315, 321, CH105, 107.

## 2003-2005 SNC Program Description

### Physics (PHYS)

The physics discipline is committed to providing students with an intellectually challenging and personally rewarding program toward the development of the whole person, to which the College is committed. The physics program is designed to (1) prepare students for graduate study in physics or a related field of science or engineering, and for careers in high school teaching, industry and other areas, (2) meet the needs of students in pre-professional as well as chemistry, geology, and biology major programs, and (3) provide an opportunity to secure a general knowledge of physics and/or astronomy as well the scientific method for students whose major program is outside of natural science.

**Graduate School Advisor:** Dr. Takamasa Takahashi

**Physics Major (14 courses, 9 in physics):** Prospective physics majors are encouraged to begin their study of physics and mathematics in the freshman year. Physics majors may be required to take the Major Field Test in their senior year as part of an on-going assessment component of the Physics program. Required courses for the major are PHYS 121, 122, 211, 225, 241, 311, 321, 325, and 411. (For secondary education certification in physics, PHYS 141 should be substituted for PY 411). Additional courses required are MATH 131 (or equivalent), 132, 233, 310, and CSCI 110.

Courses that are often recommended include PHYS 495; MATH 303, 315, 321; CHEM 105, 107. Also, graduate study in physics toward a Ph.D. degree benefits from a reading knowledge of a foreign language -- German and French are most valuable.

The following paradigm, with more courses listed than the minimum required for a physics major, is recommended for a student who wishes a strong background for graduate study in physics. The courses superscripted by a 1 or 2 indicate those to be taken by students entering in an odd or even year. (\*MATH 310 may have to be taken in year 3, depending on when it is offered).

Year 1: PHYS 121, PHYS 122, MATH 132, MATH 233, CSCI 110

Year 2: PHYS 241, PHYS 211, PHYS 225<sup>1</sup>, MATH 310\*

Year 3: PHYS 311<sup>1</sup>, PHYS 411<sup>1</sup>, PHYS 325<sup>1</sup>, PHYS 321<sup>2</sup>, PHYS 225<sup>2</sup>, CHEM 105, CHEM 107, MATH elective

Year 4: PHYS 321<sup>1</sup>, PHYS 311<sup>2</sup>, PHYS 411<sup>2</sup>, PHYS 325<sup>2</sup>, PHYS 495, PHYS elective, MATH elective

**Academic Minor (6 courses):** PHYS 121, 122, 211, 241, 311 or 321, MATH 310. Cognate requirements are MATH 131, 132, and 233.

**Teaching Minor (6 courses):** PHYS 121, 122, 141, 211, 225 and 241. Students with majors in biology, chemistry, geology, mathematics, and pre-professional students are advised, or required, to take PHYS 121 and 122.