

**2005-07 Catalog Paradigm  
Physics – Even Year**

| <b>First Year</b> |                   |
|-------------------|-------------------|
| 1.                | MATH 131 (GS8)    |
| 2.                | MATH 132          |
| 3.                | CSCI 110          |
| 4.                | PHYS 121 (GS4)    |
| 5.                | PHYS 122          |
| 6.                | General Education |
| 7.                | General Education |
| 8.                | General Education |

| <b>Second Year</b> |                   |
|--------------------|-------------------|
| 1.                 | MATH 233          |
| 2.                 | MATH 310          |
| 3.                 | PHYS 211          |
| 4.                 | PHYS 241          |
| 5.                 | General Education |
| 6.                 | General Education |
| 7.                 | General Education |
| 8.                 | Elective/Minor    |

| <b>Third Year</b> |                   |
|-------------------|-------------------|
| 1.                | PHYS 321          |
| 2.                | PHYS 225          |
| 3.                | General Education |
| 4.                | General Education |
| 5.                | Elective/Minor    |
| 6.                | Elective/Minor    |
| 7.                | Elective/Minor    |
| 8.                | Elective/Minor    |

| <b>Fourth Year</b> |                   |
|--------------------|-------------------|
| 1.                 | PHYS 311          |
| 2.                 | PHYS 325          |
| 3.                 | PHYS 411          |
| 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.                | MATH 131 (GS8)    |
| 2.                | MATH 132          |
| 3.                | CSCI 110          |
| 4.                | PHYS 121 (GS4)    |
| 5.                | PHYS 122          |
| 6.                | General Education |
| 7.                | General Education |
| 8.                | General Education |

| <b>Second Year</b> |                   |
|--------------------|-------------------|
| 1.                 | MATH 233          |
| 2.                 | MATH 310          |
| 3.                 | PHYS 211          |
| 4.                 | PHYS 241          |
| 5.                 | PHYS 225          |
| 6.                 | General Education |
| 7.                 | General Education |
| 8.                 | Elective/Minor    |

| <b>Third Year</b> |                   |
|-------------------|-------------------|
| 1.                | PHYS 311          |
| 2.                | PHYS 325          |
| 3.                | PHYS 411          |
| 4.                | General Education |
| 5.                | General Education |
| 6.                | Elective/Minor    |
| 7.                | Elective/Minor    |
| 8.                | Elective/Minor    |

| <b>Fourth Year</b> |                   |
|--------------------|-------------------|
| 1.                 | PHYS 321          |
| 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: _____<br><br>Student ID: _____  |  |
| <b>General Education – Lower Biennium</b>   | <b>Major</b>   |
| <input type="checkbox"/> <b>GS1</b> – Religious Studies<br>_____<br><input type="checkbox"/> <b>GS2</b> – Philosophy of Human Nature<br>_____<br><input type="checkbox"/> <b>GS3</b> – Human Relationships<br>_____<br><input type="checkbox"/> <b>GS4</b> – Natural Science<br>_____<br><input type="checkbox"/> <b>GS5</b> – Creative Expression<br>_____<br><input type="checkbox"/> <b>GS6</b> – United States Heritage<br>_____<br><input type="checkbox"/> <b>GS7</b> – Foreign Heritages<br>_____<br><input type="checkbox"/> <b>GS8</b> – Quantitative Skills<br>_____<br><input type="checkbox"/> <b>GS9</b> – Writing<br>_____<br>_____ | <b>Required Courses:</b><br><input type="checkbox"/> PHYS 121 – General Physics I<br><input type="checkbox"/> PHYS 122 – General Physics II<br><input type="checkbox"/> PHYS 211 – Classical Mechanics<br><input type="checkbox"/> PHYS 225 – Analog Circuits<br><input type="checkbox"/> PHYS 241 – Modern Physics<br><input type="checkbox"/> PHYS 311 – Thermal Physics<br><input type="checkbox"/> PHYS 321 – Electromagnetism<br><input type="checkbox"/> PHYS 325 – Digital Circuits<br><input type="checkbox"/> PHYS 411 – Quantum Mechanics<br><input type="checkbox"/> MATH 131 – Calculus and Analytic Geometry I<br><input type="checkbox"/> MATH 132 – Calculus and Analytic Geometry II<br><input type="checkbox"/> MATH 233 – Calculus and Analytic Geometry III<br><input type="checkbox"/> MATH 310 – Differential Equations<br><input type="checkbox"/> CSCI 110 – Introduction to Computer Programming |
| <b>General Education – Upper Biennium</b>   |  |
| <input type="checkbox"/> <b>GS1</b> – Religious Studies<br>_____<br><input type="checkbox"/> <b>GS10</b> – Western Tradition<br>_____<br><input type="checkbox"/> <b>GS11</b> – Global Society<br>_____<br><input type="checkbox"/> <b>GS12</b> – Senior Colloquium (GENS 400)<br>_____<br>_____  | Note –<br><br>Recommended courses include PHYS 495, MATH 303, 315, 321, CHEM 105, 107.   |

## **College Catalog 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 and Dr. Michael Olson

### **2005-07 Catalog Physics Requirements**

**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 are 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 PHYS 411). Additional courses required are MATH 131 (or equivalent), 132, 233, 310, and CSCI 110.

Courses that are often recommended include PHYS 490; MATH 303, 315, 321; CHEM 105, 107.

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

**Physics Teaching Minor (6 courses):** PHYS 121, 122, 141, 211, 225 and 241.