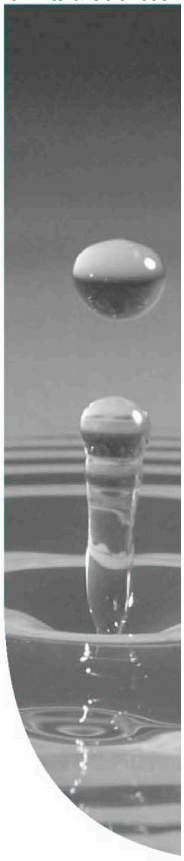
# Physics (Bachelor of Arts)



## About the Program

The physics BA program is designed to give students a broad foundation in physics while providing enormous flexibility to customize one's program. The BA program can be used to provide students with a broader variety of post-graduate career paths than the BS, such as teaching, medicine, law, science journalism, business and technology. The BA program is not intended as an entryway into physics PhD programs, but is suitable preparation for many physics Masters programs. The program includes lecture courses in all major fields of physics (including current research areas) as well as experience in modern laboratory and computer techniques. Students also have opportunities to participate in research projects.

**The following courses are the required core of the Physics B.A. (23 credits):**

| | Credits |
|---|---|
| [1]College Physics for Physics Majors I, II (PHYS 2005, 2006) (BoK NS) | 8 |
| [1]College Physics for Physics Majors Lab I, II (PHYS 2005L, 2006L) | 2 |
| Intermediate Physics I, II (PHYS 3001C, 3002C) | 10 |
| Physics Capstone Project (PHYS 4099) | 3 |

**Math Requirements (15 credits):**

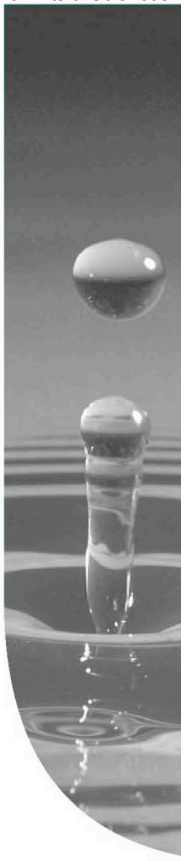
| | |
|---|---|
| Calculus I, II (MATH 1061, 1062) (BoK QR) | 8 |
| Multivariable Calculus (MATH 2063) | 4 |
| Differential Equations (MATH 2073) | 3 |

**The following courses can be used to fill out the final 15 credits of the required 45 physics credits required by the major and must come from 3xx level or higher. Courses outside of physics must be 3xx or higher and be approved by the director for undergraduate studies. Courses outside the Math Requirement and physics cannot exceed 6 credits towards the 45 credits for the degree.**

Mechanics (PHYS 3010), Electricity & Magnetism I, II (PHYS 3020, 3021), Thermal Physics (PHYS 3030), Advanced Topics in Astronomy (PHYS 3041), Experiments in Modern Physics I & II (PHYS 3061), Intro to Astrophysics I, II (PHYS 4025, 4026), Advanced Laboratory (PHYS 5011), Intro to Quantum Mechanics I, II (PHYS 6010, 6011), Physical Chemistry I, II (CHEM 3020, 3021), Intro to BioChemistry (CHEM 3040).

[1]College Physics (Calculus-based) for non-majors (PHYS 2001, 2002 and lab PHYS 2001L, 2002L) may be substituted with special permission from the Director of Undergraduate Programs in Physics.

# Suggested Four Year Schedule for the Physics BA



The model schedule below is a guide for planning only. Transfer, part-time, or other students who depart from a four-year program, cannot follow it precisely. Due to the extreme flexibility of the program, physics BA majors should see a departmental adviser as early as possible to discuss departmental requirements and plan their schedules based on their post-graduate plans. Specific tracks have been devised for teaching, pre-med, pre-law, and physics or astrophysics concentrations.

**First Year**

| | | |
|---|---|---|
| | Mathematics Preparation (Algebra/Trigonometry, Calc 0) | 6 |
| * | Foreign Language | 10 |
| * | History | 6 |
| * | English Composition (ENGL 1001) | 3 |
| * | Humanities/Literature or Fine Arts | 3 |
| | Total | 28 cr hrs |

**Second Year**

| | | |
|---|---|---|
| ‡ * | College Physics for Physics Majors I, II (2005, 2006) | 8 |
| * | College Physics for Physics Majors Lab I, II (2005L, 2006L) | 2 |
| ‡ * | Calculus I, II (MATH 1061, MATH 1062) | 8 |
| * | Social Sciences | 6 |
| * | Intermediate Composition (ENGL 2089) | 3 |
| * | Humanities/Literature or Fine Arts | 3 |
| | Total | 30 cr hrs |

**Third Year**

| | | |
|---|---|---|
| | Intermediate Physics I, II (3001C, 3002C) | 10 |
| | Multivariable Calculus (MATH 2063) | 4 |
| | Differential Equations (MATH 2073) | 3 |
| | Other (Education, Math, Chemistry, Biology, etc) Electives | 13 |
| | Total | 30 cr hrs |

**Fourth Year**

| | | |
|---|---|---|
| | Physics Electives (PHYS 3xxx or other approved) | 15 |
| | Physics Capstone (4099) | 3 |
| | Additional Free Electives | 14 |
| | Total | 32 cr hrs |

* Fulfills BoK College Requirements as outlined in the A&S Checklist. Approved course lists are available at the A&S Office of Student Affairs and Advising, (2nd Floor French Hall) or on the A&S website (www.artsci.uc.edu).

‡ Satisfy BoK NS and QR requirements and are required for field of concentration.

Additional credits of free electives may need to be taken to fulfill the college requirements of 120 total credits for graduation. For further information, please consult the Department of Physics, 400 Geology-Physics Building, 513-556-0501, physics.dept@uc.edu, or visit our website at http://www.physics.uc.edu/.