

# PHYSICAL SCIENCES

## undergraduate program

Consistent with the overall mission of the University of Pittsburgh at Bradford, the Bachelor of Science degree in Physical Science includes a liberal arts core curriculum, much of which is taken during the first two years of study.

### Employment Opportunities:

Forester  
Ecologist  
Eco toxicologist  
Environmental planner  
Natural resource manager  
Park Ranger  
Pollution control technician  
Teacher  
Researcher  
Technical Writer/Editor  
Scientific Consultant  
Astronautic Engineer  
Astronomer  
Biophysicist  
Geophysicist  
Health Physicist  
Health Inspector  
Nuclear Physicist  
Quality Control Specialist  
Operations Manager  
Computer Software Developer  
Industrial Hygienist  
Computer Technologist  
Geologist  
Paleontology  
Mineralogist  
Geochemist  
Sedimentologist



The major in Physical Sciences develops an understanding of the natural world by the integrated study of biology, chemistry, mathematics and physics. Students will select a concentration in biology or chemistry. With the major, students are prepared for employment in technical phases of government and industry, as well as for graduate study in the sciences.

Physical science majors at Pitt-Bradford take courses in biology, chemistry, physics and calculus. Students receive hands-on experience by working in the lab and/or field. Students also have the opportunity to become directly involved in research as part of their undergraduate studies.

### Required Skills:

- Observation
- Critical Thinking
- Decision Making
- Operate Scientific Equipment
- Organization
- Record Keeping
- Communication (Oral & Written)
- Knowledge of Scientific Research

### Possible Employers:

- Petroleum Industry
- Construction Firm
- State & Federal Government
- Environmental Organization
- Academia
- Museum
- Law Firm

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### PROFESSIONAL ORGANIZATIONS:

American Physical Society  
American Public Works Association  
National Association of Environmental Management  
The American Society of Forensic Sciences  
American Institute of Physics

[www.aps.org](http://www.aps.org)  
[www.apwa.net](http://www.apwa.net)  
[www.naem.org](http://www.naem.org)  
[www.aafs.org](http://www.aafs.org)  
[www.aip.org](http://www.aip.org)

### FIND OUT MORE ABOUT CAREERS IN PHYSICAL SCIENCES AT:

Sciencejobs.org  
Science Buddies  
Occupational Outlook Handbook  
Career Services

[www.sciencejobs.org](http://www.sciencejobs.org)  
[www.sciencebuddies.org](http://www.sciencebuddies.org)  
[www.bls.gov/k12/science.htm](http://www.bls.gov/k12/science.htm)  
[www.upb.pitt.edu/career.aspx](http://www.upb.pitt.edu/career.aspx)



## Physical Sciences (BS) – Curriculum Guide

Student Name:

Advisor:

### GENERAL EDUCATION REQUIREMENTS

#### COMPETENCIES

(Minimum grade of C- required in all competencies)

- FS 0102 Freshman Seminar  
(if transferring in fewer than 18 credits)

#### Writing

- ENG 0101 English Composition I  
 ENG 0102 English Composition II

#### Mathematics

- MATH 0098 College Algebra or Higher (see major)

#### THE HUMAN EXPERIENCE

- Students new to Pitt-Bradford beginning fall 2013 are  
 required to complete two courses designated as "Global"

- Students who enrolled prior to fall 2013 are required to  
complete ONE course designated as Non-Western

**ARTS & LETTERS** (ONE course MUST be literature;  
ONE course MUST be a creative, fine or performing Arts course)

- Literature  
 Arts  
 Literature, Arts, Language

#### BEHAVIORAL, ECONOMIC, & POLITICAL SCIENCES

(Two different categories must be represented))

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#### HISTORY, CULTURES, & PHILOSOPHICAL INQUIRY

(ONE course MUST be History, and ONE course must be Cultures  
or Philosophical Inquiry)

- HIST

#### PHYSICAL, LIFE, & COMPUTATIONAL SCIENCES

(ONE course must be a Physical Science, ONE must be a Life  
Science and ONE must include a lab)

- (see major)  
 (see major)  
 (see major)  
 Lab (see major)

#### PHYSICAL EDUCATION

- PEDC

### REQUIRED MAJOR COURSES

- BIOL 0101 Introduction to Cell and Molecular  
 BIOL 0102 Introduction to Biodiversity  
 CHEM 0101 General Chemistry I  
 CHEM 0102 General Chemistry II  
 GEOL 0101 Physical Geology  
 MATH 0140 Calculus I  
 MATH 0150 Calculus II  
 MATH 0201 Calculus III  
 PHYS 0101 Introduction to Physics I &  
 PHYS 0102 Introduction to Physics II **OR**  
 PHYS 0201/0203 Foundations of Physics I and Lab &  
 PHYS 0202/ 0204 Foundations of Physics II and Lab

**CONCENTRATION AREA:** Student *MUST* complete  
required courses in one of the following concentrations:

#### **BIOLOGY**

- BIOL 0201 Cell Biology  
 BIOL 0203 Genetics  
 BIOL 1302 Microbiology  
 CHEM 0206 Organic Chemistry I  
 CHEM0207 Organic Chemistry I Lab  
 UP Level BIOL Elective (4 hours)  
 UP Level BIOL Elective (4 Hours)  
 BIOL 1451 Capstone: Ecology

#### **CHEMISTRY**

- CHEM 0201 Introduction to Analytical Chemistry  
 CHEM 0206/0207 Organic Chemistry I & Lab  
 CHEM 0208/0209 Organic Chemistry II & Lab  
 CHEM 1301 Physical Chemistry I  
 CHEM 1302 Physical Chemistry II  
 CHEM 1451 Capstone: Chemistry  
 UP Level CHEM Elective (3-4 Hours)

**According to your Degree Progress Report in MY.PITT.EDU  
upon successful completion of the current term:**

You will have EARNED \_\_\_\_\_ credit hours

You NEED \_\_\_\_\_ for 120 credit hours required for graduation.

You will have earned \_\_\_\_\_ credit hours of Upper Level course work.

You NEED \_\_\_\_\_ for the 30 credit hours required for graduation.

NOTE: This guide is unofficial. Completing the requirements on this sheet  
does NOT guarantee degree completion. Official degree completion  
information can be found in **MY.PITT.EDU**. Contact your Faculty  
Advisor and/or the Registrar's Office with questions or concerns.