BACHELOR OF ARTS WITH A MAJOR IN PHYSICS (STEM)

The bachelor of arts in physics of builds a foundation in the field while allowing plenty of flexibility to combine the program with a second major or minor in another course of study. The program includes courses in physics and mathematics as well as electives in physics or astronomy. Students also complete a capstone course. This is a STEM designated program.

Visit the program website (https://physics.columbian.gwu.edu/ba-physics/) for additional information.

ADMISSIONS

For information about the admission process, including deadlines, visit the Office of Undergraduate Admissions website (https://undergraduate.admissions.gwu.edu/). Applications can be submitted via the Common Application (https://go.gwu.edu/commonapp/).

Supporting documents not submitted online should be mailed to:

Office of Undergraduate Admissions
The George Washington University
800 21st St NW Suite 100
Washington, DC 20052

For questions visit undergraduate.admissions.gwu.edu/contact-us (http://undergraduate.admissions.gwu.edu/contact-us/).

REQUIREMENTS

The following requirements must be fulfilled:

The general requirements stated under Columbian College of Arts and Sciences, Undergraduate Programs (http://bulletin.gwu.edu/arts-sciences/#degreeregulationstext).

Program-specific curriculum:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Required</td>
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<tr>
<td>Introductory courses (29 credits):</td>
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<tr>
<td>CSCI 1012</td>
<td>Introduction to Programming with Python</td>
<td></td>
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<tr>
<td>or MAE 1117</td>
<td>Introduction to Engineering Computations</td>
<td></td>
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<tr>
<td>PHYS 1021</td>
<td>University Physics I</td>
<td></td>
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<tr>
<td>or PHYS 1025</td>
<td>University Physics I with Biological Applications</td>
<td></td>
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<tr>
<td>PHYS 1022</td>
<td>University Physics II</td>
<td></td>
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<tr>
<td>or PHYS 1026</td>
<td>University Physics II with Biological Applications</td>
<td></td>
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<tr>
<td>PHYS 2023</td>
<td>Modern Physics</td>
<td></td>
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<tr>
<td>Advanced courses (21 credits):</td>
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<tr>
<td>PHYS 2151W</td>
<td>Intermediate Laboratory I: Techniques and Methods</td>
<td></td>
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<tr>
<td>PHYS 3161</td>
<td>Mechanics</td>
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<tr>
<td>PHYS 3164</td>
<td>Thermal and Statistical Physics</td>
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<tr>
<td>PHYS 3165</td>
<td>Electromagnetic Theory I</td>
<td></td>
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<tr>
<td>PHYS 4195W</td>
<td>Physics Capstone</td>
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<tr>
<td>Electives</td>
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</tbody>
</table>

Two courses (6 credits) in Physics (PHYS) numbered 3000 or above and/or Astronomy (ASTR) numbered 2000 or above.

GENERAL EDUCATION

In addition to the University General Education Requirement (http://bulletin.gwu.edu/university-regulations/general-education/), undergraduate students in Columbian College must complete a further, College-specific general education curriculum—Perspective, Analysis, Communication (G-PAC) (https://advising.columbian.gwu.edu/general-education-curriculum-gpac/) as well as the course CCAS 1001 First-Year Experience. Together with the University General Education Requirement, G-PAC engages students in active intellectual inquiry across the liberal arts. Students achieve a set of learning outcomes that enhance their analytical skills, develop their communication competencies, and invite them to participate as responsible citizens who are attentive to issues of culture, diversity, and privilege.

Coursework (http://bulletin.gwu.edu/university-regulations/general-education/#generaleducationtext) for the University General Education Requirement is distributed as follows:

- One course in critical thinking in the humanities.
- Two courses in critical thinking, quantitative reasoning, or scientific reasoning in the social sciences.
- One course that has an approved oral communication component.
- One course in quantitative reasoning (must be in mathematics or statistics).
- One course in scientific reasoning (must be in natural and/or physical laboratory sciences).
• UW 1020 (https://bulletin.gwu.edu/search/?P=UW%201020)
  University Writing (4 credits).
• After successful completion of UW 1020, 6 credits distributed
  over at least two writing in the discipline (WID) courses taken
  in separate semesters. WID courses are designated by a "W"
  appended to the course number.

Coursework for the CCAS G-PAC requirement is distributed
as follows:

• Arts—one approved arts course that involves the study or
  creation of artwork based on an understanding or interpretation
  of artistic traditions or knowledge of art in a contemporary
  context.
• Global or cross-cultural perspective—one approved course that
  analyzes the ways in which institutions, practices, and problems
  transcend national and regional boundaries.
• Local or civic engagement—one approved course that develops
  the values, ethics, disciplines, and commitment to pursue
  responsible public action.
• Natural or physical science—one additional approved laboratory
  course that employs the process of scientific inquiry (in addition
  to the one course in this category required by the University
  General Education Requirement).
• Humanities—one additional approved humanities course that
  involves critical thinking skills (in addition to the one course
  in this category required by the University General Education
  Requirement).
• CCAS 1001 First-Year Experience

Certain courses are approved to fulfill GPAC requirements
in more than one category.

Courses taken in fulfillment of G-PAC requirements may also be
counted toward majors or minors. Transfer courses taken prior to,
but not after, admission to George Washington University may count
toward the University General Education Requirement and G-PAC, if
those transfer courses are equivalent to GW courses that have been
approved by the University and the College.

Lists of approved courses in the above categories are included
on each undergraduate major’s (http://bulletin.gwu.edu/arts-
sciences/#majorstext) page in this Bulletin.

SPECIAL HONORS

In addition to the general requirements stated under University
Regulations, in order to be considered for graduation with Special
Honors, a student must submit for departmental approval an honors
thesis based on a two-semester research project. In addition, the
student must have a cumulative grade-point average of at least 3.5
in physics courses and 3.5 overall.