TOEFL requirements
The TOEFL exam is required for students from non-English-speaking countries.
PBT score: 580
iBT score: 92

Other admissions information
Additional requirements: There are no minimum GRE scores requirement but considerable weight is given to these scores. The average GRE advanced score of the first-year class is typically around 820.
Undergraduate preparation assumed: Undergraduate courses in quantum mechanics, electricity and magnetism, classical mechanics, statistical mechanics, and mathematical physics and one senior-level survey course.

TUITION
Tuition year 2015–16:
Tuition for in-state residents
Full-time students: $15,207 annual
Tuition for out-of-state residents
Full-time students: $27,255 annual
This tuition rate is for the academic year (9 months). Students holding assistantships of half-time or more receive a tuition waiver.
Credit hours per semester to be considered full-time: 10
Deferred tuition plan: No
Health insurance: Available
Other academic fees: $360/quarter student fees.
Academic term: Quarter
Number of first-year students who received full tuition waivers: 22

Teaching Assistants, Research Assistants, and Fellowships
Number of first-year
Teaching Assistants: 20
Research Assistants: 2
Fellowship students: 4
Average stipend per academic year
Teaching Assistant: $18,540
Research Assistant: $18,540
Fellowship student: $10,000

FINANCIAL AID
Application deadlines
Fall admission:
U.S. students: February 15
Loans
Loans are available for U.S. students.
Loans are available for international students.
GAPSFAS application required: No
FAFSA application required: No
For further information
Address financial aid inquiries to: Office of Student Financial Aid, University of Washington, Box 355880, Seattle, WA 98195-5880.
Phone: (206) 543-6101
E-mail: osfa@u.washington.edu
Financial aid website: http://www.washington.edu/students/osfa
HOUSING

Availability of on-campus housing
Single students: Yes
Married students: Yes

For further information
Address housing inquiries to: Student Services Office, Housing and Food Services, University of Washington, 301 Schmitz Hall, Box 355842, Seattle, WA 98195-5842.
Phone: (206) 543-4059
E-mail: hfsinfo@u.washington.edu
Housing aid website: http://hfs.washington.edu

Table A—Faculty, Enrollments, and Degrees Granted

<table>
<thead>
<tr>
<th>Research Specialty</th>
<th>2015-16 Faculty</th>
<th>Enrollments Fall 2016</th>
<th>Number of Degrees Granted 2015–16</th>
<th>Doctorate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Master’s</td>
<td>Doctorate</td>
<td>Master’s Master’s Doctorate</td>
<td></td>
</tr>
<tr>
<td>Applied Physics</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Astrophysics</td>
<td>6</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Atomic, Molecular, &amp; Optical Physics</td>
<td>6</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Biophysics</td>
<td>10</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Condensed Matter Physics</td>
<td>20</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>High Energy Physics</td>
<td>8</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Nuclear Physics</td>
<td>22</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Particles and Fields</td>
<td>5</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Physics and other Science Education</td>
<td>3</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Non-specialized</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>78</td>
<td>50</td>
<td>140</td>
<td>8 1</td>
</tr>
<tr>
<td><strong>First-year Grad. Stud.</strong></td>
<td>–</td>
<td>140</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td><strong>Full-time Grad. Stud.</strong></td>
<td>–</td>
<td>22</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

GRADUATE DEGREE REQUIREMENTS

Master’s: Minimum of 36 approved credits are required, 18 of which must in courses numbered 500 or above, including a minimum of three credits in Physics 600 research. At least 18 credits must be in graded courses. No thesis is required. No foreign language is required. Students must pass qualifying examination (Ph.D. program). Must submit project report and pass a final oral examination (evening master’s degree program). A minimum of three full-time quarters of residency are required. Part-time quarters may be accumulated to meet this requirement. A grade point average of 3.0 is required.

Doctorate: Grade point average above 3.0 is required. A sequence of required courses must be taken. Qualifying examination, general examination, and a final examination, which is usually a defense of the dissertation, are required. Eighteen graded credits at the University of Washington are required. A minimum of three academic years of resident study are required. A minimum of 27 credits of dissertation over period of at least three quarters and some teaching experience are required. There is no language examination required. Students must be registered for the quarter that they receive their degree.

Thesis: Thesis may be written in absentia.

SPECIAL EQUIPMENT, FACILITIES, OR PROGRAMS

At our Center for Experimental Nuclear Physics and Astrophysics, an FN tandem Van de Graaff accelerator can be used with negative-ion injection to reach energies of 18 MeV for proton and higher energies for heavier ions. For nuclear astrophysics experiments with a terminal ion source, the proton (or helium ion) beam energy can be as low as 100 keV, with currents up to 30 microamps. The Center includes active research programs in neutrino physics and muon physics.

Our High-Energy Laboratory maintains facilities for the preparation and analysis of experiments performed at off-campus accelerators. We have a 3He dilution refrigerator for extremely low-temperature research, a laser facility for generating tunable optical radiation at precisely controlled frequencies, and an extended X-ray absorption fine structure (XAFS) facility for determining the atomic structure of condensed matter.

Facilities for research into nanostructure include two atomic force microscopes, one at room temperature and the other at low temperature in extra-high vacuum, and a 14-Tesla superconducting magnet.

The Department also houses the Institute for Nuclear Theory (INT), a national facility funded by the Department of Energy to host visitor programs for the exploration of current topics in nuclear theory. The INT is closely integrated with the Physics Department both physically and intellectually, with INT senior fellows supervising thesis research in physics and INT seminars frequently attended by members of the Physics Department.

Computing facilities include numerous modern workstations and server machines plus access to both University mainframes and national supercomputing centers. Since 1994, the Department has been located in a recently constructed building with state-of-the-art facilities for instruction and research.

Table B—Separately Budgeted Research Expenditures by Source of Support

<table>
<thead>
<tr>
<th>Source of Support</th>
<th>Departmental Research</th>
<th>Physics-related Research Outside Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal government</td>
<td>$17,676,313</td>
<td></td>
</tr>
<tr>
<td>State/local government</td>
<td>$189,482</td>
<td></td>
</tr>
<tr>
<td>Non-profit organizations</td>
<td>$720,000</td>
<td></td>
</tr>
<tr>
<td>Business and industry</td>
<td>$98,658</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>$286,506</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$18,970,959</strong></td>
<td></td>
</tr>
</tbody>
</table>

Table C—Separately Budgeted Research Expenditures by Research Specialty

<table>
<thead>
<tr>
<th>Research Specialty</th>
<th>No. of Grants</th>
<th>Expenditures ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atomic, Molecular, Optical Physics</td>
<td>11</td>
<td>$7,213,999</td>
</tr>
<tr>
<td>Condensed Matter Physics</td>
<td>24</td>
<td>$5,730,838</td>
</tr>
<tr>
<td>Nuclear Physics</td>
<td>20</td>
<td>$6,638,742</td>
</tr>
<tr>
<td>Particles and Fields</td>
<td>9</td>
<td>$1,684,096</td>
</tr>
<tr>
<td>Physics and other Science Education</td>
<td>2</td>
<td>$220,302</td>
</tr>
<tr>
<td>Relativity &amp; Gravitation</td>
<td>12</td>
<td>$3,293,499</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>78</td>
<td><strong>$18,781,476</strong></td>
</tr>
</tbody>
</table>

FACULTY

Professor


United States: Geographic Listing of Graduate Programs

**Washington**


Heckel, Blayne, Ph.D., Harvard University, 1981. Chairman Physics Department. *Atomic, Molecular, & Optical Physics*. Experimental atomic physics.

Heron, Paula, Ph.D., University of Western Ontario, 1995. *Physics and other Science Education*. Physics education.


Kaplan, David B., Ph.D., Harvard University, 1985. Director INT. *Nuclear Physics*. Theoretical nuclear physics.


**Associate Professor**


Mandel, Miguel F., Ph.D., University of California, Santa Cruz, 1992. *Astrophysics, Cosmology & String Theory*. Experimental astrophysics; cosmology.


**Assistant Professor**

Chu, Jian-Haw, Ph.D., Stanford University. Experimental condensed matter.


Gray, Rybka, Ph.D., Massachusetts Institute of Technology, 2007. Experimental astrophysics.

Hsu, Shih-Chieh, Ph.D., University of California, San Diego, 2008. High-energy physics.


**Emeritus**


Boulware, David G., Ph.D., Harvard University, 1962. *Astrophysics, Particles and Fields, Relativity & Gravitation*. Theoretical physics; astrophysics; relativity; elementary particles.


Halpern, Isaac, Ph.D., Massachusetts Institute of Technology, 1948.


Williams, Robert W., Ph.D., Massachusetts Institute of Technology, 1948. *High Energy Physics*.

Research Professor


Research Assistant Professor

Enomoto, Sanshiro, Ph.D., Tohoku University, 2005. *Nuclear Physics*.


Adjunct Professor


Drobný, Gary, Ph.D., University of California, Berkeley, 1981. *Biophysical chemistry*.

Dunham, Scott T., Ph.D., Stanford University, 1985. Modeling and simulation of microfabrication processes and device behavior.


Hawley, Suzanne L., Ph.D., University of Texas, Austin, 1989. *Astrophysics*. Theoretical astrophysics.


Kutz, Jose N., Ph.D., Northwestern University, 1990. *Applied Mathematics*. Dynamical systems; nonlinear differential equations; bifurcation theory.


Affiliate Professor


Cleveland, Bruce T., Ph.D., Johns Hopkins University, 1970. *Experimental neutrino physics*.


Habig, Alec T., Ph.D., Indiana University, 1996. *Astrophysics, Nuclear Physics*.


Levanyuk, Arkady, Ph.D., Moscow University, 1977. *Condensed Matter Physics*.


Raschke, Markus B., Ph.D., Max-Planck Institute for Quantum Optics and Technology University, Munich, 1999. *Nano Science and Technology*. Chemistry and nanoparticles.


van Kolck, Ubirijara, Ph.D., University of Texas, Austin, 1993. *Nuclear Physics*. Theoretical nuclear physics.


Affiliate Assistant Professor


Mueller, Peter, Ph.D., Johannes Gutenberg University, 2003.

Lecturer


DEPARTMENTAL RESEARCH SPECIALTIES AND STAFF

Theoretical

Astrophysics. Agol, Bardeen, Nelson, Quinn, Reddy.


Experimental

Astrophysics. Adelberger, Gundlach, Heckel, Morales, Rosenberg, Wilkes.

Atomic, Molecular, & Optical Physics. Blinov, Dehmelt, Forston, Gupta, Heckel, Kutz, Van Dyck.


Condensed Matter Physics. Campbell, Chu, Cobden, Fu, Ginger, Keller, Ohuchi, Olinstead, Seidler, Sorensen, Vilches, Xu.


Nuclear Physics. Adelberger, Doe, Garcia, Gundlach, Heckel, Hertzog, Kammel, Robertson, Rosenberg, Rybka, Tolich, Trainor.

Physics and other Science Education. Heron, McDermott, Shaffer.

Relativity & Gravitation. Adelberger, Gundlach, Heckel.

View additional information about this department at [www.gradschoolshopper.com](http://www.gradschoolshopper.com)