Additional Information about the College and Department, 
drafted by the Faculty in Physics and Astronomy

Haverford College, located just outside of Philadelphia, is a small, private, liberal arts college founded as a Quaker men’s college in 1833, becoming fully co-educational in 1980\(^1\). Along with Swarthmore and Bryn Mawr Colleges, Haverford is a member of the Tri-College consortium, which brings together three top liberal arts colleges to coordinate academic and scholarly resources, enhancing the scope and quality of resources available to students and faculty alike. For example, students may cross-enroll among the three campuses, the libraries coordinate their collections and distribution, resources are available to support scholarly collaboration, and some major programs share faculty across all three campuses. Haverford and Bryn Mawr Colleges enjoy an especially close relationship, with over 2,000 cross-registrations between the two campuses each year. These close academic and logistic partnerships represent a culture that especially values the benefits of collaboration and coordination among academic partners to amplify our impact and leverage the diversity of institutional, scholarly, and individual identities across the consortium as a resource.

Haverford is committed to the goal of improving representation on campus and facilitating access to education to a population of excellent scholars more representative of society. In service of this goal, the college invests considerable resources in recruitment and support for students who hold one or more underrepresented identities, including admissions outreach efforts, a mentoring program targeting first-generation low-income (FGLI) students, direct financial support for hidden educational costs, development of affinity spaces, and other substantial programming. Along with a need-sensitive admissions policy and the commitment to meeting the financial aid needs of all admitted students, these efforts have produced, for the 1435 students comprising the graduating classes of 2021-24, a student population of which 45.1%\(^1\)

\(^1\) Some of the content in this document is adapted from institutional documentation provided by Haverford College and our Tri-Co partners.
identified as a student of color (including 12% Asian, 9% Hispanic or Latino, 7% Black or African American, 3% mixed race), and 25% of students have at least one parent who did not attend college\(^2\).

Haverford is notable in its core commitment to integrating scholarly research and undergraduate education. This commitment has produced a close-knit intellectual community of internationally recognized academic leaders dedicated to working collaboratively with undergraduates, especially in the sciences, where departments typically include participation in research as a criterion for graduation.

Approximately 40% of recent Haverford graduates have majored in a STEM field, and 8 of the 10 largest major programs at Haverford are in the science center. Thus, Haverford excels as an attractor and incubator for future scientists. Haverford’s excellence is reflected in our inclusion in the top 25 schools responsible for advancing science\(^3\). Additionally, Haverford ranked #9 nationwide in a recent (March 2022) assessment of per-capita STEM Ph.D. production, ahead of all but three R1 institutions\(^4\). The Physics and Astronomy department, in particular, over-produces on these metrics, with Haverford graduates consistently over-represented in top Physics Ph.D. programs, with our graduates accounting for 1-3% of all US-based astronomy PhDs. These metrics cast Haverford College, particularly the Physics and Astronomy department, as a valuable component of America’s pipeline for professional scientists and engineers.

Part of this success is due to the emphasis on close collaboration between faculty and students, research integration, and junior scholars’ training. Teaching and research are equally weighted in personnel cases, and additional value is recognized in coordinating research and teaching activities. These priorities are reflected in Haverford faculty’s


\(^3\) [Quartz (qz.com) ranking based on per capita alumni who went on to be winners of the Nobel Prize (physics, chemistry, medicine, economics, literature, and peace), Fields Medal (mathematics) and the Turing Award (computer science), or individuals elected to the National Academy of Sciences (NAS), National Academy of Engineering (NAE) or Institute of Medicine (IOM). Updated in 2019. https://qz.com/498534/these-25-schools-are-responsible-for-the-greatest-advances-in-science/](https://qz.com/498534/these-25-schools-are-responsible-for-the-greatest-advances-in-science/)

success in securing research funding: among the roughly 45 tenure-line faculty in the natural sciences, several currently hold NSF RUI grants, non-RUI grants, NSF CAREER grants, or NIH R15 awards.

About the Physics and Astronomy Department

The Physics department at Haverford College has degree programs in Physics, Astronomy, and Astrophysics. We have 6 tenure-line faculty, a full-time laboratory instructor, and a semi-permanent visiting researcher; we typically host 1-4 visiting lecturers and postdoctoral researchers in a given academic year. Between 2016 and 2020, the department averaged 20-25 graduates annually, but recent enrollments have spiked, and we now anticipate 30-35 majors per year for the foreseeable future. A recent survey of departmental alums suggested that at least 75% of our majors go on to study for a doctorate in a related field. Even though the department does not include a graduate program, our faculty are well-regarded in their fields: several hold leadership roles in international collaborations or professional societies, and recent emeriti have been recipients of honors, including the Gruber Prize and election to the National Academies based on careers characterized by close collaboration with undergraduate scholars. Every permanent faculty member is research active, with programs that rely on collaboration with undergraduate researchers. Faculty in our department maintain research programs in soft matter physics, extragalactic observational astronomy, the physics of neutron stars, observational pulsar astronomy, theoretical exploration of dark matter models, self-assembling circuits, and experimental biophysics. The Office of Admissions at Haverford shared with us that “every year, there are students who note our physics and/or astronomy programs” as motivating factors in their decision to enroll at Haverford. Every student majoring in Physics or Astronomy at Haverford completes a substantial thesis, usually based on research with a faculty member or an off-campus research advisor. While not a requirement, publication of work related to student theses are not uncommon, and we attribute the professional success of our graduates, in part, to the substantial capstone research experience.
The Physics and Astronomy department is part of the Koshland Integrated Natural Sciences Center (KINSC), along with the Chemistry, Biology, Mathematics and Statistics, Computer Science, Psychology and Neuroscience, and Environmental Studies departments. The center coordinates departmental activities and supports center-wide activities and programs to maintain Haverford's academic leadership in STEM fields. In this capacity, the KINSC manages several shared instruments and facilities, funds a modest number of summer research opportunities for students, coordinates outreach activities, and organizes programs to provide resources like peer mentoring and student travel support.