YALE

Biological & Biomedical Sciences Program

GUIDE FOR Ph.D. APPLICANTS

1. APPLYING TO THE CORRECT TRACK

Each Track has its own admissions committee, its own first year curriculum, and its own set of research specialties. It is therefore important to apply to the Track that most closely aligns with your own scientific interests. Please visit our website and read carefully the *Program of Study* section of a given Track to understand the courses students take. Also review the *Research Areas* section to understand the primary research interests of the Track. Then review the *Faculty & Staff* section to find more details about individual faculty labs.

Below are additional details about the applicants each Track seeks.

Biochemistry, Quantitative Biology, Biophysics and Structural Biology (BQBS)	The BQBS curriculum bridges atomic, molecular and cellular scales, and is designed to equip students with a broad molecular and quantitative skillset to study fundamental questions in biology.
Computational Biology and Biomedical Informatics (CBB)	CBB is intended for applicants who seek to develop computational, informatics, and data science methods applied to research domains in biology or biomedicine, such as electronic health records, genomics, and computational modeling of biological systems.
Microbiology	Applicants should have a strong interest and relevant prior research experiences in studying microbial-host interactions and mechanisms of microbial pathogenesis, including bacteria, viruses, and parasites.
Immunology	Immunology seeks applicants interested in interdisciplinary training and collaborative and interactive research delving into the molecular, cellular, and genetic underpinnings of immune system function and dysfunction during development, pathogen and microbiome encounter, cancer, genetic disease, and in a variety of autoimmune and inflammatory disorders.
Molecular Cell Biology, Genetics and Development (MCGD)	MCGD is intended for applicants who are interested in addressing fundamental biological questions using cellular, genetics, molecular, and/or developmental approaches. Most MCGD students will receive degrees in one of 3 Ph.D. programs: *Cell Biology*; *Genetics*; and *Molecular, Cellular, and Developmental Biology*.
Neuroscience	Applicants will be interested in studying important problems in neuroscience, from the basic to the translational. PhD projects range across levels of investigation, including molecular, cellular, circuits, systems, anatomical, and behavioral, or may be integrative and use approaches at multiple levels.
Plant Molecular Biology (PMB)	Applicants must be committed to pursuing research in plant sciences and be interested in cross-disciplinary approaches to plant biology.
Translational Molecular Medicine, Pharmacology, and Physiology (TMMPP)	TMMPP offers the opportunity for students to use the tools of biochemistry, cell and molecular biology, physiology, structural biology, systems biology, and genetics to investigate mechanisms of disease and pathogenesis, development and molecular actions of therapeutics, and cooperation of genes, proteins and small molecules to produce the specific functions of cells, tissues, and organs.

2. SUCCESSFUL APPLICANTS

The information below is intended to provide guidance on what admissions committees consider when reviewing applications. Note that entrance to the BBS Program is competitive, and the percentage of applicants we are able to admit each year is low. Acceptance rates are provided in section 3 below.

A. PRIOR RESEARCH EXPERIENCE

One of the most important attributes of a strong applicant is prior research experience. Each BBS Track seeks applicants who have demonstrated a commitment to the field and the potential for success, as demonstrated by having relevant research experience at a university or company. The experience may be as an undergraduate or masters degree student or may be as a research assistant or postbaccalaureate trainee after graduating. The most successful applicants have at least several months of research experience prior to applying.

Your Statement of Purpose on the application should highlight your research experience and demonstrate your understanding of the subject you studied.

B. FUTURE PLANS

Admissions committees are looking for applicants who are committed to becoming leaders in research and research-related careers. Use your Statement of Purpose to outline your anticipated career plans.

C. PRIOR COURSEWORK

There are no common courses required of all BBS applicants. We do not have a minimum GPA requirement, but grades in science and math courses are carefully considered by admissions committees. Please see the Track-specific course requirements below.

BQBS	Typical BQBS students will have taken courses in biochemistry; general, organic and physical chemistry; physics; and calculus.
CBB	Applicants are expected to have a strong foundation in the basic sciences, such as biology, chemistry, physics, and mathematics and to have training in computing/informatics, including significant computer programming experience.
Micro	Successful applicants will have completed undergraduate coursework in biology, chemistry at least through organic chemistry, physics, and calculus.
Immuno	It is preferred that students have taken courses in biology, organic chemistry, biochemistry, genetics, cell biology, physics, and mathematics. Actual course requirements, however, are not fixed, and students with outstanding records in any area of the biological sciences may qualify for admission.
MCGD	Successful applicants will have completed undergraduate coursework in biology, chemistry at least through organic chemistry, physics, and calculus.
Neuro	Successful applicants will have completed undergraduate coursework in biology, chemistry at least through organic chemistry, physics, and calculus.
PMB	Applicants must have a strong foundation in basic sciences, such as biology, chemistry, physics, computer science, or mathematics.
TMMPP	Applicants should have a strong background in the biological, chemical, and/or physical sciences. Courses in biology, biochemistry, organic and physical chemistry, and mathematics at least through elementary calculus are recommended.

D. PRIOR DEGREES

Applicants need to complete the equivalent of a U.S. bachelors degree prior to matriculating at Yale. A masters degree or other advanced degree is not necessary.

E. MORE INFORMATION

BBS admissions requirements*:* *https://medicine.yale.edu/bbs/apply/requirements/*

Yale Graduate School admissions requirements*:* *https://gsas.yale.edu/admissions/phdmasters-application-process*

3. BBS PROGRAM STATISTICS

A. BBS ACCEPTANCE RATES

	# Applicants	Acceptance Rate		
		U.S. applicants	Non-U.S. applicants	Overall
2024-25	3,156	13.5%	4.0%	8.6%
2023-24	2,526	16.9%	4.2%	10.3%
2022-23	1,975	20.9%	6.3%	13.8%

Much of the funding for BBS students comes from NIH training grants. These grants restrict funding to U.S. citizens and U.S. permanent residents only. As a result, funding for international students is more limited; and we are able to admit a smaller fraction of our international applicant pool.

B. ADDITIONAL ADMISSIONS DATA

Track admissions data (most recent 5 years):
https://public.tableau.com/views/YaleGraduateSchoolofArtsandSciencesStatistics-OnlyBBS2023/Admissions?%20:embed=y&:display_count=yes&:showVizHome=no

C. CURRENT STUDENT BODY DEMOGRAPHIC DATA (Data are as of spring 2024 for students across all years of study and not just the entering class of 1st year BBS students.)

Citizenship

- 30% International
- 70% U.S. and U.S. Permanent Residents (of which 27% are from traditionally underrepresented racial and ethnic groups as defined by the National Institutes of Health)

Gender

- 59% female
- 40% male
- 1% other