

## Yale University Biomedical Engineering Graduate Program Information PhD

Thanks for your interest in the Biomedical Engineering graduate program at Yale. Here is some general information about our PhD program:

See the engineering graduate school web site (<http://seas.yale.edu/study-graduate.php>) for information on the PhD programs. Also, see the website for the graduate school for more information on the program and on the applications process (<http://seas.yale.edu/graduate-study/admissions> and <http://www.yale.edu/graduateschool/admissions/>).

### **Application Information**

In considering an application to Yale BME, it is important that you have in mind one or more faculty members with whom you would like to work. Faculty interest in a candidate is a very important consideration in acceptance or rejection, i.e., an excellent candidate might be rejected simply because there is no faculty member working in the defined area of interest, or because none of the relevant faculty are accepting new graduate students into their labs. Please read the web pages of the department faculty to see who has research programs that are best aligned with your interests. Please contact faculty directly to discuss potential positions in their lab.

Applications for our graduate program are done online (<http://www.yale.edu/graduateschool/admissions/>). You may start your application for the 2020-2021 academic year [here](#). The deadline is December 15<sup>th</sup> to start the program in the fall. In your application, please be very clear in your essay about 1) your focus areas of interest in BME (e.g., drug delivery, imaging, biomechanics, tissue engineering, systems biology) and 2) the specific faculty members with whom you would like to work and why. In addition, please be sure to complete the BME Supplemental Form, which is part of the application, to help you identify BME faculty and areas of interest to you.

As part of the application review process, candidates will receive a phone call in January from one or more faculty members. Information on acceptance will be sent out in mid to late February. We have an organized visit weekend where we host the accepted PhD students at the end of March.

### **Application Data**

Our admitted students tend to have a wide variety of academic backgrounds. Most have a good background in fields such as engineering, biology, chemistry, physics, mathematics, and/or computer science. The specifics of your background will be evaluated in light of your area of interest in BME; for example, greater math and programming experience will be more important for students interested in imaging. Admitted students with non-scientific majors have always taken some classes in these areas and can show with their transcript that they can do well in engineering/math/biology classes.

The average GREs of our accepted PhD students are 77<sup>th</sup> percentile verbal and 87<sup>th</sup> percentile quantitative. The average GPA of accepted PhD students is 3.70.

The PhD program has a teaching requirement, and therefore English speaking proficiency is a requirement. The TOEFL test is required for applicants with a Bachelor's degree from a university where English is not the primary language of instruction. It is common for incoming PhD students to score 100 or higher on the TOEFL test overall and 26 or higher on the TOEFL-Speaking test, or 7 or higher on the IELTS.

To view the various English Language Proficiency Pathways for graduate students at Yale, please see the following Yale Center for Language Study website:

<http://cls.yale.edu/programs/english-language-program/english-language-proficiency-pathways>.

Some students may need to take courses offered by the English Language Program (ELP). For a list of these classes, go to: <http://cls.yale.edu/elp-courses>.

Seeking the services of the [Graduate Writing Center](#) as well as participating in the [Certificate of College Teaching Preparation Program](#) are both great ways to assist you in preparing for the teaching requirement of the BME PhD program.

## Typical Program

- In your first 2 years, you are required to complete 10 courses plus an ethics seminar.
  - Students may waive up to 2 of these courses by having taken and performed adequately in a similar course in a graduate degree program either at another institution or at Yale. Courses taken at another institution must be judged by the DGS to be comparable in quality to those offered at Yale.
    - Please go to the following page to find the link to the Course Waiver Petition form: <https://registrar.yale.edu/forms-petitions>
- There are 3 required courses:
  - A math requirement which can be ENAS 500, ENAS 505 or ENAS 549 (preferred),
  - ENAS 510,
  - ENAS 550
- Two of these courses are “Special Investigations”, i.e., lab rotations/presentations.
- By the end of the first academic year, you are expected to join a lab and have a research mentor.
- There is one required teaching semester in your second year. Additional teaching can be performed in later years, for additional compensation.
- In year 3, you will establish your thesis committee and take an “area exam” in which you will present your thesis plan and a written prospectus. Upon passing, you will advance to candidacy. There is no written qualifying exam.
- You will give a seminar to the department in your 4<sup>th</sup> year.
- Defend your dissertation, typically in years 5 or 6.

## Funding

PhD candidates in BME have their tuition paid and receive a stipend for living expenses (currently ~\$2,938 per month). Funding comes from the University for the first academic year. You will join a research group of a faculty mentor by June 1 after your first year and your financial support will be provided by your faculty mentor, unless the student brings his/her own funding.

For more details, see the engineering graduate school web site <http://seas.yale.edu/study-graduate.php>.