Biological Design, PhD

GCBDSPHD

Program Description

Degree Awarded: PHD Biological Design

The PhD program in biological design seeks to develop a new type of scientist by training students in core disciplines related to biomedicine and biotechnology while simultaneously preparing them to participate successfully in the interdisciplinary research teams of the future.

The research emphasis is on projects that are use-inspired, contributing directly to solutions for important societal challenges. This is a highly mentored program of personalized study that provides significant interaction with the large and vibrant local research community.

There are four key distinguishing features of the curriculum: a personalized plan of study that allows students to explore the disciplinary and interdisciplinary areas of greatest interest; encouragement to choose dissertation research projects that are use-focused, contribute to solving a large-scale challenge and promise rich transdisciplinary experiences; opportunities to participate in a proseminar format to encourage broad research interactions and discuss problems and challenges in biological design research; and three 10-week laboratory rotations during the first year of study. Rotations can be in any ASU laboratory that is centered largely on biological research.

At a Glance

- **College/School:** Ira A. Fulton Schools of Engineering
- **Location:** Tempe campus or Online

Degree Requirements

84 credit hours, a written comprehensive exam, an oral comprehensive exam, a prospectus and a dissertation
Required Core (3 credit hours)
BDE 702 Fundamentals of Biological Design II (3)

Other Requirements (2 credit hours)
BDE 598 Special Topics: Biological Design Seminar (1)
BDE 791 Seminar: Biological Design Proseminar (1)

Electives and Research (67 credit hours)

Culminating Experience (12 credit hours)
BDE 799 Dissertation (12)

Additional Curriculum Information
Other requirements courses may be substituted with approval of the academic unit.

Admission Requirements
Applicants must fulfill the requirements of both the Graduate College and the Ira A. Fulton Schools of Engineering.

Applicants are eligible to apply to the program if they have earned a bachelor's or master's degree from a regionally accredited institution.

Applicants must have a minimum cumulative GPA of 3.00 (scale is 4.00 = "A") in the last 60 hours of their first bachelor's degree program, or applicants must have a minimum cumulative GPA of 3.00 (scale is 4.00 = "A") in an applicable master's degree program.

All applicants must submit:

1. graduate admission application and application fee
2. official transcripts
3. three letters of recommendation
4. personal statement
5. resume
6. proof of English proficiency

Additional Application Information
An applicant whose native language is not English must provide proof of English proficiency regardless of current residency.

Three letters of recommendation relative to the candidate's academic career are required. The personal statement should reflect the candidate's career and educational goals and should explain why the candidate is interested in pursuing this degree. The resume should include prior research and employment experience, honors, awards, memberships held, publications, etc.
For additional admission requirements, including transcripts, fees and international application requirements, students should see the Graduate Admission Services website.

**Application Deadlines**

**Fall**

**Spring**

**Career Opportunities**

Graduates are trained at the intersection of biological sciences, physical sciences and technology through innovation, design and production. They find career opportunities in health care, biotechnology, pharmaceutical discovery, biomanufacturing, security, environmental and food agribusinesses.

Career examples include:

- biochemists and biophysicists
- clinical scientists
- environmental engineers
- health and safety engineers
- medical scientists and engineers
- microbiologists

**Contact Information**

School for Engineering of Matter, Transport & Energy | ECG 202
semte@asu.edu | 480-965-2335