

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.

The curriculum has four key distinguishing features: a personalized plan of study that enables 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](#)

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 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 their 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 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 admission services website.

Tuition information

When it comes to paying for higher education, everyone's situation is different. Students can learn about [ASU tuition and financial aid](#) options to find out which will work best for them.

Application deadlines

Fall

Spring [expand](#)

[expand](#)

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 technologies and food agribusinesses.

Career examples include:

- biochemist
- biophysicist
- clinical scientist
- environmental engineer
- health and safety engineer
- medical engineer
- medical scientist
- microbiologist

Contact information

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