

Biomimicry, Certificate

SUBMYCERT

The emerging discipline of biomimicry draws lessons from biological strategies and emulates these for sustainable design. Pair your passion for biomimicry with your major field of interest, and become an empowered change agent for a better world.

Description

The undergraduate biomimicry certificate is an 18-credit-hour interdisciplinary opportunity for students from a variety of backgrounds and any major. The certificate program is designed to address the growing interest in biomimicry knowledge and training.

The knowledge, competencies and skills students have upon completion of this program include the ability to:

- apply Life's Principles to specific needs within one's discipline
- facilitate the integration of biology into design within one's discipline using biomimicry thinking
- guide processes in one's discipline toward sustainability from a biomimetic perspective
- integrate biomimicry thinking into a discipline-specific opportunity resulting in biomimetic outcomes
- interpret observations in nature with a functional lens for design applications

The biomimicry certificate consists of four core classes, one elective course within the student's discipline, and a practicum capstone course offered through either the student's discipline or BMY 430 Biomimicry Practicum.

At a glance

- **College/School:** [College of Global Futures](#)
- **Location:** [Tempe](#)

Program requirements

[2024 - 2025 Certificate Map](#)

[Certificate Map \(Archives\)](#)

The certificate in biomimicry consists of 18 credit hours, 12 of which are upper division. It takes a minimum of four semesters to complete, due to course sequencing.

A grade of "B" or better is required in all biomimicry certificate courses. Students who earn a "B-" or lower in a certificate course must repeat the course to earn a "B" or better.

Students should complete SOS 110 prior to enrolling in the certificate or in the first semester of enrollment.

Core Courses -- 12 credit hours

[BMY 230 / BIO 230: How Nature Works](#) (3)

[BMY 302: Principles of Life](#) (3)

Notes: BMY 302 is typically only offered in spring semester.

[BMY 304: The Practice of Biomimicry](#) (3)

Notes: BMY 304 is typically only offered in fall semester.

[SOS 110: Sustainable World \(SB\)](#) (3)

Upper Division Elective -- 3 credit hours

Upper Division Elective (3)

Notes: Students must complete BMY 230, BMY 302 and BMY 304 prior to the upper division elective. The elective must be biomimicry related and ideally makes a connection between the student's major and the certificate. Students are responsible for identifying elective options and submitting a proposal prior to taking the course. Students must be prepared to present a course syllabus and explain how they will apply biomimicry directly to course assignments. After completing the course, students must complete and submit a one-page form that guides them to reflect on their goals for applying biomimicry to the course, whether and how they succeeded, and what they learned in the process. The course will not be moved in the DARS audit to show completion of the requirement until after the student has completed and submitted the form, which will be provided to them upon approval of the elective. Email cgfadvising@asu.edu with questions about the upper division elective.

Capstone -- 3 credit hours

Upper Division Capstone (3)

Notes: Students must select either BMY 430, or a biomimicry-focused capstone in their corresponding major, or BMY 499 Independent Study (if options 1 and 2 are unavailable). Students must complete BMY 230, BMY 302, and BMY 304 prior to the capstone. With the exception of BMY 430, students are responsible for identifying capstone options and submitting a proposal prior to taking the course. Students must be prepared to provide a course syllabus and explain how they will apply biomimicry directly to course assignments. After completing the course, students must complete and submit a one-page form that guides them to reflect on their goals for applying biomimicry to the course, whether and how they succeeded, and what they learned in the process.

The course will not be moved in the DARS audit to show completion of the requirement until after the student has completed and submitted the form, which will be provided to them upon approval of the capstone. Email cgfadvising@asu.edu with questions about the capstone.

Prerequisite courses may be needed in order to complete the requirements of this certificate.

Enrollment requirements

Students must have a GPA of 3.00 in order to add the undergraduate certificate in biomimicry.

Before adding the certificate, students must [make an appointment](#) with a College of Global Futures advisor to review additional details about the requirements. Due to prerequisites and timing of course offerings, the certificate must be initiated no later than the beginning of one's junior year.

A student pursuing an undergraduate certificate must be enrolled as a degree-seeking student at ASU. Undergraduate certificates are not awarded prior to the award of an undergraduate degree. A student already holding an undergraduate degree may pursue the graduate certificate in biomimicry.

Global opportunities

Global experience

With more than 300 Global Education program opportunities available to them, students of all majors, including programs in the College of Global Futures, are able to tailor their experience to their specific interests and skill sets. Whether in a foreign country, in the U.S., or online, students build communication skills, learn to adapt and persevere, and are exposed to research and internships across the world, increasing their professional network.

Students can find programs specific to their interests on the [College of Global Futures Study Abroad](#) webpage and additional opportunities and information on the [ASU Global Education Office](#) website. These sites also include additional information about applying for funding to support global travel.

Career opportunities

Earning a certificate in biomimicry is a transformative step that amplifies the impact of a student's major degree program. This transdisciplinary endeavor equips students with a specialized skill set rooted in applied, nature-inspired design and innovation. In a world where innovation, creativity and collaboration are highly sought after, this certificate becomes a powerful asset, setting students apart in competitive job markets.

Biomimicry transcends career boundaries, seamlessly complementing paths in business, technology, science, education or government. It offers an avenue for contributing to meaningful work by emulating the wisdom of the natural world. As students delve into biomimetic principles, they gain the ability to understand and generate sustainable solutions, a skill set in high demand across industries. With a biomimicry certificate, students not only bring the natural world into their professional and personal lives but also bring about positive change, adding transdisciplinary and innovative value to their major degree program.

Contact information

[School of Complex Adaptive Systems](#) | WCPH 4th floor
cgfadvising@asu.edu | 480-727-6963