

BIOLOGY CORE CURRICULUM HONORS, CERTIFICATE

Biology Core Curriculum (Biocore (<http://www.biocore.wisc.edu/>)) is an undergraduate Honors biology certificate program for students who are motivated to learn biology within a small community of students, peer mentors, and faculty instructors. The four-semester curriculum of lecture and laboratory courses provides an integrated foundation of knowledge and skills applicable to any area of bioscience.

Biocore is not a major but fulfills requirements (introductory to intermediate coursework, Honors, and Communication Part B) for a variety of biological science majors including those in the College of Agricultural and Life Sciences, College of Letters & Science, College of Engineering, and School of Pharmacy. See the Biocore website and video (<http://www.biocore.wisc.edu/about/>) to learn more.

Unique aspects of Biocore include:

- Small classes and high faculty/instructor contact
- Emphasis on research, problem solving, science reasoning, group learning, and communication
- Inclusive, collaborative community of students and faculty
- Peer mentoring, outreach, and directed study opportunities
- Biocore Honors certificate.¹

¹ *Biology Core Curriculum Honors certificate* is available to students within the College of Agricultural and Life Sciences, the College of Engineering, the School of Human Ecology, the College of Letters & Science, and the School of Pharmacy. Students in the School of Business, the School of Education, and the School of Nursing are welcome to benefit from enrollment in the Biocore courses, but they are ineligible to earn the certificate. Students earn Honors course credit for each Biocore course and are eligible to earn a certificate upon completion of all four lecture courses and two of three lab courses with a grade of B or higher in all BIOCORE (<http://guide.wisc.edu/courses/biocore/>) courses and a 3.33 cumulative GPA.

HOW TO GET IN

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Biocore is an application-based Honors program that starts in the fall. While any UW–Madison student admitted to Biocore can take courses and complete the program, only students in the College of Agricultural and Life Sciences, the College of Engineering, the School of Human Ecology, the College of Letters & Science, the School of Education, the School of Pharmacy and the School of Business will be eligible to have the certificate noted on their transcript.

Application options:

Applications are available through the Biocore website (<https://biocore.wisc.edu/biocore-admissions/>) starting in mid-December. Most

students apply during the spring of freshman year and begin fall of sophomore year.

- Early application deadline on first Friday of January for notification prior to beginning of spring semester
- Regular application deadline in mid-March prior to April registration
- Rolling application review after March deadline right up to the start of fall classes

PREREQUISITES

Please inquire about course equivalents.

Code	Title	Credits
Introductory Chemistry		
Complete one of the following:		5
CHEM 104	General Chemistry II	
CHEM 109	Advanced General Chemistry	
CHEM 115	Chemical Principles I	
Total Credits		5

REQUIREMENTS

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Code	Title	Credits
Complete the following lecture courses (in sequence):		
BIOCORE 381	Evolution, Ecology, and Genetics	3
BIOCORE 383	Cellular Biology	3
BIOCORE 485	Principles of Physiology	3
BIOCORE 587	Biological Interactions	3
Complete two of the following lab courses (in any order):		4
BIOCORE 382	Evolution, Ecology, and Genetics Laboratory	
BIOCORE 384	Cellular Biology Laboratory	
BIOCORE 486	Principles of Physiology Laboratory	
Total Credits		16

RESIDENCE AND QUALITY OF WORK

- Minimum 3.3000 University GPA
- Grade of B or better in all BIOCORE and courses used for the certificate

CERTIFICATE COMPLETION REQUIREMENT

This undergraduate certificate must be completed concurrently with the student's undergraduate degree. Students cannot delay degree completion to complete the certificate.

LEARNING OUTCOMES

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1. Demonstrate a learning mindset and intellectual curiosity for biology.
2. Demonstrate advanced level scientific reasoning and integration of biological concepts and processes – from molecules to the biosphere, across different forms of life, through space and time.
3. Generate novel scientific questions, formulate hypotheses, carry out experiments, and make logical conclusions based on evidence.
4. Demonstrate advanced scientific communication skills, oral and written, and the ability to translate their understanding to the broader community.
5. Actively engage in and practice group learning, collaboration, and teamwork.
6. Reach for and achieve high standards in the quality of learning.
7. Articulate the value of the Biocore Honors experience.

ADVISING AND CAREERS

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Some majors require students to complete the whole program, but others do not. **Check on your major requirements and with an academic advisor in your major.** Review sample four-year schedules (<https://biocore.wisc.edu/four-year-schedules/>) for how Biocore fits into many different bioscience majors. Students who plan to study abroad during their junior year can plan to start Biocore as sophomores and complete coursework as seniors.

For general academic and advising questions in Biocore, contact Heidi Horn, Biocore associate director, hhorn@wisc.edu or Diana Tapia Ramon, high impact practice facilitator dtapia2@wisc.edu.

For questions about the student experience, see Biocore Peer Advisors (<https://biocore.wisc.edu/biocore-peer-advisors/>) and contact uwbiocore.peeradvisors@gmail.com.

L&S CAREER RESOURCES

Every L&S major opens a world of possibilities. SuccessWorks (<https://successworks.wisc.edu/>) at the College of Letters & Science helps students turn the academic skills learned in their major, certificates, and other coursework into fulfilling lives after graduation, whether that means jobs, public service, graduate school or other career pursuits.

In addition to providing basic support like resume reviews and interview practice, SuccessWorks offers ways to explore interests and build career skills from their very first semester/term at UW all the way through graduation and beyond.

Students can explore careers in one-on-one advising, try out different career paths, complete internships, prepare for the job search and/or graduate school applications, and connect with supportive alumni and even employers in the fields that inspire them.

- SuccessWorks (<https://careers.ls.wisc.edu/>)
- Set up a career advising appointment (<https://successworks.wisc.edu/make-an-appointment/>)
- Enroll in a Career Course (<https://successworks.wisc.edu/career-courses/>) - a great idea for first- and second-year students:

- INTER-LS 210 L&S Career Development: Taking Initiative (1 credit)
- INTER-LS 215 Communicating About Careers (3 credits, fulfills Comm B General Education Requirement)
- Learn about internships and internship funding (<https://successworks.wisc.edu/finding-a-job-or-internship/>)
 - INTER-LS 260 Internship in the Liberal Arts and Sciences
- Activate your Handshake account (<https://successworks.wisc.edu/handshake/>) to apply for jobs and internships from 200,000+ employers recruiting UW-Madison students
- Learn about the impact SuccessWorks has on students' lives (<https://successworks.wisc.edu/about/mission/>)

PEOPLE

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Shelby O'Connor (faculty director)

Heidi Horn (associate director, teaching faculty)

Carol Borcharding (program manager)

Anna Kowalkowski (teaching faculty)

Seth McGee (lab instructor)

Diana Tapia Ramon (high impact practice facilitator)

Biocore faculty instructors come from departments and colleges across campus (College of Letters & Science, College of Agriculture and Life Sciences, School of Medicine and Public Health, College of Engineering) and bring with them different perspectives and disciplinary expertise on a whole range of topics and scales of biological organization from molecules to ecosystems. The curriculum permits students to attain a relatively high level of sophistication with complete flexibility of choice for subsequent major specialization.

AFFILIATED FACULTY INSTRUCTORS

Bill Bement (Integrative Biology, L&S)

Erik Dent (Neuroscience, SMPH)

Irwin Goldman (Horticulture, CALS)

Anne Griep (Cell and Regenerative Biology, SMPH)

Jeff Hardin (Integrative Biology, L&S)

Laura Hernandez (Animal & Dairy Sciences, CALS)

Evelyn Howell (Landscape Architecture, L&S)

Brian Kirkpatrick (Animal & Dairy Sciences, CALS)

Robert Kotloski (Neurology, SMPH)

Trina McMahon (Civil and Environmental Engineering, Engr)

Shelby O'Connor (Pathology, SMPH)

Han Wang (Integrative Biology, L&S)

Biocore Steering Committee: Elaine Alarid, Heidi Horn, Paul Bethke (chair), Anne Griep, Jeff Hardin, Anna Kowalkowski, Evelyn Howell, Shelby O'Connor

WISCONSIN EXPERIENCE

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The Biocore Experience is aligned with the Wisconsin Experience, supporting students' development of knowledge, intellectual skills, and social responsibilities.

Biocore is an Honors biology program, a *community*, and a *curriculum* that challenges students to discover and reach their academic potential within an inclusive and supportive biology education program. The Biocore Honors community of highly motivated students works with dedicated faculty to extend opportunities for scientific research, communication, integrative learning, and collaboration in the context of a four-semester undergraduate biology curriculum.

STUDENTS SAY:

"Biocore has helped me **think about science in a completely different way.**"

"I have never been so challenged, nor so **excited about learning**, as during my time in Biocore."

"Biocore taught me how to **think critically and how to question**. I learned to be part of a team and made some great friendships. "

"Taking Biocore made other **advanced courses in biology/ biochemistry/genetics so much easier** because I gained such solid background knowledge."

"Biocore has been my most valuable academic experience yet. It has helped me develop my **scientific writing skills, ability to problem solve as a member of a team, and to think like a scientist.**"

"The **great staff and teaching teams** are excellent -- they **really care** and invest a huge amount of time to benefit our learning."

See Biocore Experience video (<https://youtu.be/YavNVg7eXaA/>), recent Biocore Honors graduate profiles (<https://biocore.wisc.edu/biocore-graduates/>), and alumni profiles (<http://www.biocore.wisc.edu/alumni/>).

In addition to courses, Biocore offers co-curricular and leadership opportunities. Students are also able to engage in Biocore peer advising (<https://biocore.wisc.edu/biocore-peer-advisors/>), Biocore peer mentoring (<https://biocore.wisc.edu/biocore-peer-mentors/>), undergraduate TAs, as well as engage in directed study and research opportunities in the Biocore Prairie (<https://biocore.wisc.edu/biocore-prairie/>), go outside the classroom with Biocore Adventure Club, and in K-12 outreach through the Biocore Outreach Ambassadors (<https://biocore.wisc.edu/biocore-outreach-ambassadors/>).