

INTEGRATED BIOSCIENCE, PHD

The University of Akron Departments of Biology, Mathematics, Biomedical Engineering, Chemical and Biomolecular Engineering, Chemistry, Civil Engineering, Computer Science, Geosciences, Physics, and Polymer Science and Polymer Engineering in collaboration with the Cleveland Clinic offer an interdisciplinary Ph.D. program in Integrated Bioscience. Students are required to incorporate an integrative aspect to their biologically-based research project that will incorporate approaches from multiple disciplines, and all students will have advisers on their committees that include faculty from at least two of the participating units. This program is designed to train students to understand modern biology in the context of integrated biological systems. This program will combine modern biology, bioengineering, bioinformatics, biochemistry, and biopolymers with the central unifying theme of connection across levels of biological organization. The program is composed of nine areas of excellence:

1. molecular cell biology and genetics;
2. physiology and organismal biology;
3. ecology and evolutionary biology;
4. biochemistry and biopolymers;
5. bioinformatics and computational biology;
6. bioengineering;
7. medically-related fields through a partnership with the Cleveland Clinic;
8. biomimicry; and
9. geomicrobiology.

Integrating information drawn from these areas of excellence will provide students with high-demand, specific skills as well as allow them to develop integrative thinking and problem-solving expertise that will be critical for progressing in the ever expanding realm of biosciences.

Admission Requirements

The applicant must meet the University admission requirements and have an undergraduate degree from an accredited institution. Applicants must submit three letters of recommendation, a statement of career goals and research interests, and note up to five faculty (rank-ordered) which they would be interested in having as their faculty adviser(s). Applicants are encouraged to contact their prospective Ph.D. advisers prior to submitting their formal applications. International students should contact The University of Akron Graduate School for specific admission requirements. Applications will be ranked according to:

- Academic background as evidenced by grade point average of at least 3.0
- Letters of recommendation (three preferred)
- Willingness of one or more potential advisors to take student on as an advisee

In addition to the above requirements international students must have a:

- First or Second Class Degree (a four-year degree if from a foreign institution)
- minimum score of 79 on the internet-based TOEFL

- minimum score of 23 on the spoken section of the internet-based TOEFL to qualify for a teaching assistantship

Applications are accepted on a rolling basis.

Requirements

Code	Title	Hours
Core Courses		
BIOL 701	Research Techniques in Integrated Bioscience	4
BIOL 702	Communicating in Integrated Bioscience	2
BIOL 703	Problem Solving in Integrated Bioscience	3
PHIL 665	Ethics of Science	3
Students are required to complete four credits of Integrated Bioscience Colloquium		4
BIOL 797	Integrated Bioscience Colloquium	
or BIOL 798	Integrated Bioscience Colloquium	
Select a minimum of nine credits of elective courses determined by student advisory committee		9
Complete dissertation credits (minimum of 55 credits)		55
Total Hours		80

- Complete written and oral qualifying exam
- Complete research proposal defense
- Complete seminar requirement
- Defend dissertation in an oral examination
- Complete all general requirements for the doctor of philosophy degree
- Complete a minimum of 80 credits for the degree