Biological Sciences (BISC)

Faculty
Andrew James Alverson, Assistant Professor
Ravi Damodar Barabote, Assistant Professor
Steven J. Beaupre, Professor
Art Brown, Professor
Michael Edward Douglas, Professor, 21st Century Chair in Global Change Biology
Marlis R. Douglas, Associate Professor, Bruker Life Sciences Chair
Yuchun Du, Associate Professor
Jeaninne M. Durlik, Professor
William J. Etges, Professor
Michelle Allayev Evans-White, Associate Professor
Johnnie L. Gentry Jr., Professor
Robyn Goforth, Research Assistant Professor
Ralph Leroy Henry, Distinguished Professor
Mack Ivey, Associate Professor
Douglas Arthur James, University Professor
Timothy Alan Kral, Professor
David G. Kremenztz, Research Professor
Michael Herbert Lehmann, Associate Professor
Daniel J. Lessner, Assistant Professor
Jeffrey A. Lewis, Assistant Professor
Daniel D. Magoulick, Research Professor
David S. McNabb, Associate Professor
Ines Pinto, Associate Professor
Douglas Duane Rhoads, Professor
Cynthia Louise Sagers, Professor
Jeffrey Donald Silberman, Associate Professor
Kimberly G. Smith, University Professor
Fred Spiegel, Professor
Steven Lee Stephenson, Professor
Christian K. Tipsmark, Assistant Professor
James M. Walker, Professor
John David Willson, Assistant Professor
Steven J. Beaupre
Department Chair
632 Science-Engineering Building
479-575-3251
E-mail: sbeaupre@uark.edu

David S. McNabb
Graduate Coordinator
526 Science-Engineering Building
479-575-3797
E-mail: dmcnabb@uark.edu

http://biology.uark.edu

Degrees Conferred:
M.S., Ph.D. in Biology (BIOL)

The graduate programs in Biological Sciences offer opportunity for advanced study and research to students who desire a comprehensive view of biological sciences. Accomplishment is judged by competence and a developing sense of responsibility for the advancement of knowledge rather than the fulfillment of routine requirements. The faculty requires of all candidates for advanced degrees a period of study in residence, advanced competence in the chosen area of expertise, satisfactory introduction to allied subjects, the ability to communicate at a scholarly level, and a satisfactory performance in examinations.

Primary Areas of Faculty Research: Cell and molecular biology (biotechnology, cellular physiology, functional genomics, gene regulation, immunology, developmental biology, molecular genetics, pathogenic microbiology); ecology and evolutionary biology (animal behavior, aquatic ecology, animal and plant physiology, conservation biology, community ecology, exobiology, fisheries biology, limnology, molecular systematics, mycology, physiological ecology, plant morphology, population and quantitative genetics, taxonomy, vertebrate biology — herpetology, ichthyology, mammalogy, ornithology — and wildlife management).

Admission to Degree Program: Applicants who wish to study for advanced degrees are expected to present a minimum of 18 hours of biological science. These normally will include training in the three areas of the Biology Subject test of the Graduate Record Examinations: a) cellular and molecular biology, b) organism biology, and c) ecology, evolution, and population biology. Applicants lacking experience in any of the above areas will be expected to broaden their biological training and may be assigned specific course work to fulfill this requirement. Students lacking a total of 18 hours of biological sciences may be admitted on a conditional basis and are not eligible for assistantships. All students applying for admission to the graduate program must provide scores on the verbal, quantitative, and analytical writing sections of the Graduate Record Examinations. Those scores, along with transcripts and three letters of recommendation, will be used in evaluating applications of students applying for assistantships.

All students must have a major professor to enter the graduate program in biological sciences. Ultimately each candidate will have a committee composed of members of the graduate faculty and the student’s major professor. Students must also fulfill the Graduate School’s residency requirements, which are stated elsewhere in this catalog.

All students are required to earn credit in two graduate seminars. Additional seminar requirements may be specified by the major professor in conjunction with the graduate committee. Students are required to present a research seminar prior to the oral thesis or dissertation defense.

Requirements for the Master’s Degree: The Master of Science degree requires 30 semester hours of graduate credit specified by the department to include at least 24 semester hours of course credit and thesis research. Any student who receives a grade of “D” or “F” in any graduate-level course will be subject to dismissal following review by the Graduate Studies Committee. Master of Science students are required to enroll in BIOL 600V for 6 hours of credit and to submit a scholarly thesis based on field and/or laboratory research. A specific coursework program will be selected under the guidance of the student’s major professor and graduate committee. An oral comprehensive examination is required of all candidates, including a defense of the thesis, which will follow their research seminar.

Specific Requirements for the Doctor of Philosophy Degree: There are no formal course requirements for doctoral students, except the two seminars mentioned previously. However, students complete a minimum of 72 graduate semester hours if entering the Ph.D. program without a master’s degree, or 42 graduate semester hours beyond the master’s degree. A minimum of 18 hours must be taken in dissertation credit; these will count in the minimums mentioned in the previous sentence. Any student who receives a grade of “D” or “F” in any graduate-level course
Biological Sciences (BISC) will be subject to dismissal following review by the Graduate Studies Committee. Any student receiving more than two grades of “C” in courses of two or more credit hours is no longer eligible for the Ph.D. degree, but may elect to complete an M.S. degree in the program. The Ph.D. is granted not only for fulfillment of technical requirements, but also for development and possession of a critical and creative ability in science and fruitful expression of imagination. Evidence of this is given in the dissertation that the candidate prepares, which constitutes an original research contribution to the fields of the biological sciences.

The Graduate School requires two examinations of all students pursuing the Doctor of Philosophy degree. These examinations are designed to assist students in developing the ability to communicate at a scholarly level and to show they have attained intellectual mastery of knowledge relating to the biological sciences. The first examination, the Candidacy Examination, contains questions related to the student’s field of interest and such other areas as the doctoral committee may specify. This examination is given by the doctoral advisory committee in two parts, written and oral. The written and oral portions of the candidacy examination must be completed within the first three calendar years in the program. Satisfactory performance on this examination will be indicated by either pass or fail as determined by the doctoral committee. In the event of failure, the examination may be repeated at the discretion of the doctoral committee. In no case may the candidacy examination be taken more than twice. Notification to the Graduate School of failure to pass the Candidacy Examination means that the student is dismissed from the Ph.D. program, and the student is not eligible for readmission into the Biology program to pursue the Ph.D. degree. The second examination, the oral Final Examination, preceded by a research seminar, is primarily concerned with the candidate’s dissertation and is taken at the end of the candidate’s program.