

Department of Zoology, Weber State University

Mission

The Department of Zoology provides rigorous, engaging, and relevant educational opportunities, resources, and expertise in all facets of animal biology and associated life sciences.

Values

- Encourage freedom of exploration in the life sciences.
- Serve diverse students at varied levels of engagement in animal biology including general education courses, support courses for non-zoology degrees across campus, and a diversity of courses relevant for careers in the sciences.
- Involve students in active research and community service.
- Through research and service, contribute new knowledge within fields of zoology and related life sciences.
- Through rigorous coursework and independent instruction, confer skills in problem solving, critical thinking, communication, and disciplinary methods, which facilitate productive futures for Zoology students and, especially, Zoology graduates.
- Strengthen life-science education and practice across Weber State University and throughout associated communities along the northern Wasatch Front metropolitan areas of Weber, Davis, and surrounding counties.

Strategic Goals in order of presumed priority from WSU leadership and initiatives along with relative levels of resources provided through WSU for support

1. Through a comprehensive suite of up-to-date zoology courses with embedded high-impact experiences in classes and laboratories, bolstered with opportunities for undergraduate research and internships, graduating science majors are prepared for next-step success in varied fields. *Given ongoing emphasis at Weber State University on graduation rates and next-step success at the college and department levels, we consider attracting, retaining, graduating, and properly training science majors to be the highest priorities of the Department.*
 - a. Consistent with the Weber State University ACCESS theme, Zoology courses for science majors provide fundamental coursework relevant for modern scientists, with a comprehensive range of elective courses to serve a student body with diverse interests.
 - b. Consistent with the Weber State University LEARNING theme, zoology courses for science majors:
 - i. engage students in an active learning environment;
 - ii. encourage development of skills necessary in a professional environment:
 1. problem solving;
 2. data collection and analysis;
 3. anatomical and organismal identification;
 4. scientific terminology;

- 5. professional presentations and writings;
 - iii. encourage free inquiry and free expression;
 - c. Consistent with the Weber State University COMMUNITY theme, coursework in the Department of Zoology prepares science students for employment in local scientific industries such as biological laboratories, medicine, and wildlife management.
 - i. Many graduates who leave to pursue medical professions also return to the area to practice medicine.
 - d. Assets –
 - i. Strong laboratory focus;
 - ii. High-impact teaching approaches;
 - iii. Opportunities for students to serve as supplemental instructors;
 - iv. Opportunities for undergraduate research;
 - v. Specialized advising for pre-med students with dedicated assistance and emphasis-specific activities and close tracking of next-step success;
 - vi. Specialized advising for other pre-professional students and wildlife-management students.
 - e. Vulnerabilities –
 - i. Increasing class sizes reduce the level of personal assistance available to each student;
 - ii. There is limited opportunity for structured advising and intervention with early zoology majors, especially for those declaring a zoology major as part of the initial enrollment process;
 - iii. There has been limited opportunity to assess rates of retention and graduation of Zoology majors;
 - iv. Better and more systematic knowledge of next step success for all majors could improve strategic planning;
 - v. More focused advising for other non-premed groups could improve retention, next-step success, and tracking of graduate success;
 - vi. For some areas of interest, there is limited specialized advising (e.g. animal care; marine biology).
- 2. Support other departments and programs within Weber State University with offerings of rigorous foundational courses relevant for a wide range of careers. *Given ongoing emphasis at Weber State University on graduation rates and next-step success at the college and department levels, we consider maintaining high-quality support courses to be the second-highest priority of the Department.*
 - a. Consistent with the Weber State University ACCESS theme, foundational courses support the offerings of popular degrees and certificates offered by the Colleges of Health Professions and Education.
 - i. Associate of Science, Health Sciences
 - ii. Associate of Science, Nursing
 - iii. Associate of Applied Science, Radiologic Technology
 - iv. Associate of Applied Science, Respiratory Therapy

- v. Environmental Studies Minor, Geography
 - vi. Exercise and Sport Science Bachelor of Science
 - vii. Registered Nurse to Bachelor of Science, Nursing
 - viii. Health Promotion Bachelor of Science
 - ix. Practical to Registered Nursing
 - x. Neuroscience minor
- b. Consistent with the Weber State University LEARNING theme, foundational courses include laboratory experiences that:
- i. engage students in an active learning environment;
 - ii. encourage development of skills necessary in a professional environment
 - 1. problem solving
 - 2. data collection and analysis
 - 3. anatomical identification
 - 4. scientific terminology
 - iii. encourage free inquiry and free expression
- c. Consistent with the Weber State University COMMUNITY theme, foundation courses form a basis for community education and outreach.
- d. Assets –
- i. Strong laboratory focus
 - ii. Opportunities for students to serve as lab instructors
 - iii. Offerings online and at Davis Campus
- e. Vulnerabilities –
- i. Large class sizes for lecture sections
 - ii. Numerous laboratory sections
 - iii. Abundance of interested but often underprepared students
3. Support the community-college mission of Weber State University with offerings of liberal arts (i.e. general education) courses valued by students seeking associates degrees. *Given strong emphasis on the dual mission of Weber State University and present efforts to invigorate general education across campus, we consider maintaining a high-quality general education curriculum to be the third-highest priority of the Department.*
- a. Consistent with the Weber State University ACCESS theme, general education courses offered by the Department allow students to progress in their programs of study by completing their life-science breadth requirement. These courses also provide access to introductory level subject matter for students lacking exposure to the life sciences. Courses are also typically offered online to increase accessibility.
 - b. Consistent with the Weber State University LEARNING theme, general education courses in zoology provide an engaging teaching and learning environment that encourages learning and leads to student success. Experiences vary, but include subject matter relating to current events, semester-long projects, and hands-on activities.
 - c. Assets –
 - i. Offerings focused on animals and humans
 - ii. Offerings for elementary school teacher certification

- iii. Offerings online, at Davis Campus, during evenings
 - d. Vulnerabilities –
 - i. Mostly “traditional” subject matter
 - ii. Many sections taught by adjuncts or as overload (not featured by tenure-track faculty) due to growing demand for support and science-majors courses where the level of expertise provided by tenure-track faculty is required
 - iii. Adjunct faculty with qualifications and availability to teach zoology courses are rare
 - iv. Compensation for adjunct professors is relatively low
- 4. Support the Biology Composite Teaching Major with a comprehensive suite of up-to-date zoology courses, opportunities for tutoring and teaching experience in the Department, and development and maintenance of partnerships with community schools. *Given ongoing emphasis at Weber State University on graduation rates and next-step success at the college and department levels along with strong emphasis on community involvement and support of K-12 education, we consider partnering with the Center for Science and Math Education to be the fourth-highest priority of the Department.*
 - a. Consistent with the Weber State University ACCESS theme, Zoology courses support the Bachelor of Science in Biology Composite Teaching offered by the College of Science.
 - i. Required courses include:
 1. Principles of Zoology I
 2. Principles of Zoology II
 3. Human Physiology or Comparative Physiology
 4. Genetics
 5. Evolution
 6. Ecology
 - ii. Biology Composite Teaching students choosing a Zoology emphasis take three additional upper-division elective courses in Zoology
 - b. Consistent with the Weber State University LEARNING theme, courses within the Biology Composite Teach major include laboratory experiences that:
 - i. engage students in an active learning environment;
 - ii. encourage development of skills necessary in a professional environment
 1. problem solving
 2. data collection and analysis
 3. anatomical and organismal identification
 4. scientific terminology
 5. professional presentations and writings
 - iii. encourage free inquiry and free expression
 - c. Consistent with the Weber State University COMMUNITY theme, the Department of Zoology is partnered with the College of Science Center for Science and Math Education (CSME).
 - i. The appointment of Dr. Lin Xiang is split between Zoology and CSME.
 1. Dr. Xiang collaborates with other contributors to the CSME in teaching life-science courses for secondary school teachers.
 2. Dr. Xiang also collaborates in outreach for in-service secondary school teachers in the region.

- d. Assets –
 - i. Strong laboratory focus
 - ii. High-impact teaching approaches
 - iii. Opportunities for students to serve as supplemental instructors
 - iv. Opportunities for undergraduate research
 - e. Vulnerabilities –
 - i. Limited number of Biology Composite Teaching students
 - ii. Limited specialized advising and major-focused activities (although improving with invigoration of the CSME and hiring of Dr. Xiang)
5. Contribute to advancement of life science through faculty-directed research and service in professional societies. *Given strong emphasis on scholarship along with continued recognition of the importance of undergraduate research and other high-impact learning opportunities for education, we consider faculty scholarship and service with professional organizations to be the fifth-highest priority for the Department.*
- a. Consistent with the Weber State University ACCESS theme, Zoology faculty active in scholarly research and professional service bring scientific involvement of regional, national, and international quality to the WSU campus and northern Wasatch Front.
 - i. Students, citizens, and organizations of the region have direct access to the individuals conducting this work.
 - b. Consistent with the Weber State University LEARNING theme, Zoology faculty serve as models of active and successful scientists.
 - i. They also bring the perspectives of active researchers into the classroom.
 - ii. They also provide opportunities for students to take part in their research activities and professional organizations.
 - c. Consistent with the Weber State University COMMUNITY theme, through their research and professional activities, Zoology faculty increase the visibility of the northern Wasatch Front region as contributing to scientific advancement on a national and international scale.
 - d. Assets –
 - i. Diverse research programs
 - ii. Scholarly activity and professional service conducted by every faculty member
 - e. Vulnerabilities –
 - i. With regard to promotion, tenure, and prestige on campus, research activities and professional service take a back seat to heavy teaching loads and requirements/expectations for service and reporting at multiple levels across the university
 - ii. Support for scholarly research and professional service is very limited
 - 1. There is minimal non-competitive or competitive funding dedicated for research
 - 2. There is minimal non-competitive or competitive funding dedicated for scholarly or professional travel
 - 3. There is no funding dedicated for scholarly publications
 - 4. There is no funding dedicated for proposal development

5. There is limited dedicated support for proposal preparation or submission
6. Strengthen life sciences in associated communities within the northern Wasatch Front metropolitan area through active service in and partnership with community organizations such as schools, government agencies, non-profit organizations, and other regional universities. *Given increasing emphasis at Weber State University for development of community-focused activities and partnerships, we consider outreach activities and relationships to be the sixth-highest priority for the Department.*
 - a. Consistent with the Weber State University COMMUNITY theme, faculty, staff, and students are active in regional K-12 education and cultural events.
 - i. Many individuals are active in local schools providing expertise in various aspects of biology.
 - ii. Many individuals participate in cultural activities having to do with animals or nature.
 - b. Assets –
 - i. Broad impact of the Zoology department in diverse activities and with diverse organizations along the Wasatch Front
 - ii. Student enthusiasm for outreach through clubs and outreach position
 - c. Vulnerabilities –
 - i. The majority of activities are ad hoc and individual based, meaning that few formal or long-term partnerships are established, which may limit depth of involvement and potential for more substantial interactions

Proposed departmental strategies:

- Integrated strategy (pertains to all goals):
 - Attract, retain, and develop high-quality faculty and staff with dedication to the strategic goals of the department (above)
 - All goals rely on efforts of faculty and staff
- Goal 1:
 - Develop strategies to strengthen recruitment of diverse and high-quality students to the zoology major
 - Develop strategies to effectively and efficiently contact and advise all majors at the beginning of their enrollment at WSU
 - Continue to increase assessment of student learning with the goal of strengthening coursework where needed
 - Evaluate, revise, and invigorate efforts for advising zoology majors with an emphasis on increasing efficiency of progress toward graduation.
 - Develop strategies to track next-step success among graduates
- Goal 2
 - Partner more closely with departments and programs reliant on or benefitting from zoology support courses (in alphabetical order):

- Geography
 - Health Promotion and Human Performance
 - Health Sciences
 - Radiologic Sciences
 - Respiratory Therapy
 - School of Nursing
- Goal 3
 - Participate in revitalization of general education at WSU
- Goal 4
 - Partner with the Center for Science and Math Education to strengthen collaboration
- Goal 5
 - To the degree possible, seek opportunities for increased financial support of faculty research efforts
- Goal 6
 - Develop and strengthen community partnerships for students interested in careers in animal care
 - Develop strategies for documenting and strengthening community ties established by particular faculty, staff, and students