

The Center for Wildlife Forensic Science and Conservation Studies (C-FACS) at the University of Central Oklahoma

Context and Rationale:

There is a rapidly evolving need for a collaborative, interdisciplinary approach to the complex issues of environmental conservation and wildlife protection. In the face of increasing habitat destruction due to global climate change, increased human population expansion, and intensified poaching pressure around the world, domestic and international wildlife forensic science efforts increasingly overlap with those of ecologists and conservationists. Wildlife exploitation and trans-national wildlife trafficking have evolved into multi-billion dollar enterprises as more and more clandestine groups use wildlife to fund military operations and organized crime activities around the globe. Additionally, threats from bioterrorism and emerging zoonotic diseases frequently have a profound wildlife nexus.

The University of Central Oklahoma is in a unique position to address these issues due to the diverse group of experts already on its faculty, who have a wide array of expertise in disciplines ranging from wildlife biology, ecology, genetics, forensic science, criminal justice, and others. The existing cooperative, multi-disciplinary relationship between the W. Roger Webb Forensic Science Institute (FSI) and the College of Mathematics and Sciences (CMS) provides a highly successful, cost effective template for collaborative research, education, and service in this arena.

Goals:

The Collaborative Center will Promote and Develop:

- Collaboration with local, state, and national agencies to assess needs in the field and promote research to address those needs
- Liaison with local and national companies to create new, and improve existing forensic techniques and equipment related to wildlife forensic investigations
- Ethical researchers motivated to confront the complex issues created by the interactions of modern society and nature
- Hypothesis driven research that promotes problem-solving, technical, and analytical skills
- Enhancement of conservation education at both the university and community levels
- Recruitment and retention of UCO undergraduate and graduate students through consolidated opportunities in ecology, environmental conservation, field biology and wildlife forensic sciences
- Support for existing STEM, STLR, and Transformative Learning initiatives
- Community outreach

Benefits

Students will:

- Gain a broad set of skills, preparing them for a wide range of occupations in various wildlife related fields including conservation biology and forensic science
- Develop interdisciplinary knowledge and interact with broader faculty than traditional programs
- Have more research opportunities enhancing their competitiveness for graduate programs and job opportunities
- Have opportunities to interact with working professionals in the field
- Develop interpersonal skills through community engagement
- Have opportunities to travel and participate in collaborative projects
- Participate in transformative learning oriented activities

Faculty will:

- Have greater access to shared resources and facilities
- Have more opportunities for grants and research, and potential for higher Center level type grants (ROIs)
- Have the benefit of a highly collaborative and encouraging environment
- Broaden the depth of current research through interdisciplinary interactions
- Have enhanced communication with extramural agencies, organizations, and the metropolitan private sector

Activities:

- Joint research
- Student/faculty seminars
- Interdisciplinary seminars
- Guest speakers
- Research trips

Potential UCO Core Facilities:

- UCO Natural History Museum
- DNA sequencing/genomics
- anatomy laboratory
- microscopy/imaging
- tissue culture
- animal facilities
- skeletal collections/skeletal laboratory
- engineering laboratory
- Selman Living Laboratory

Community Stakeholders:

Founding UCO faculty currently maintain active partnerships with the Oklahoma Department of Wildlife Conservation, Shoals Marine Laboratory, National Marine Fisheries Service Forensic Science Laboratory, Society for Wildlife Forensic Science, U.S. Forest Service, and New Mexico Game and Fish. Potential partnerships to be pursued include federal, state, and local agencies, energy corporations, environmental assessment companies, biotechnology and wildlife forensic companies, the Oklahoma City zoo, and outdoor sports and recreation companies.

Organizational Structure and Leadership:

Co-directors (representing FSI and CMS), appointed by the Dean of CMS with input from the Director of FSI and Chairpersons from committed, actively participating departments, will oversee the organization, membership, and operations of the C-FACS. A Steering Committee will advise the co-Directors.

Faculty and Staff Enrichment and Participation:

C-FACS membership will be granted to faculty members who have an interest in interdisciplinary approaches to natural resources conservation and wildlife forensics research, education, and practice. They may have an active project or interest in beginning a new project. They must demonstrate a willingness to participate in cooperative, multi-disciplinary research and grant writing, a strong desire to collaborate with and mentor undergraduate and graduate students, a commitment to forming productive academic, governmental, and private sector partnerships, a history of publishing cooperative research, and a willingness to contribute information to outside agencies to improve conservation and forensic efforts.