



Preparing Students through Experiential Learning in All Five SENR Majors

(EEDS: Environment, Economy, Development and Sustainability; EPDM: Environmental Policy and Decision Making; ES: Environmental Science; FFW: Forestry, Fisheries and Wildlife; NRM: Natural Resource Management)

Impact Statement 2020

FUNDING SOURCES

USDA Competitive Grant, Internal Ohio State University Grants, Commodity Groups, Industry Grants

Other Funding: Columbus Foundation; City of Columbus: Ohio State Student Life grant; ODW grant (funds 5 student internships with TWEL each summer); Ohio State Connect and Collaborate, FirstEnergy Corporation

INVESTIGATORS

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SUMMARY

One of the most dynamic ways SENR prepares students for careers and graduate study is to engage them in experiential learning activities that help students integrate the concepts and skills they have gained in the classroom. Our main venues for experiential learning are capstone courses, internships, and field-based studies, all of which have evolved and expanded during 2020. Experiential learning opportunities help enhance the teaching, research, and outreach missions of the School.



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SITUATION

A growing body of research demonstrates that hands-on and field experiences — in which students apply theoretical ideas to real-world situations — contribute to their intellectual development. Employers indicate that they want college graduates to have more practical experience working in collaborative, multi-disciplinary teams addressing complex problems as a way to transition students from their formal studies into successful careers, and surveys indicate that the first job of over 50% of students after graduation is a direct result of an internship. Historically, environment and natural resources curricula have capitalized on opportunities to use outdoor settings to expose students to natural landscapes and diverse ecosystems, and to interact with professional natural resource managers. The range of contemporary sustainability challenges also invites integrative, experiential inquiries, and our students greatly benefit from the immersive, real-life experiences provided by capstone courses, internships, and field study courses.

RESPONSE

Each of the five SENR majors includes experiential learning opportunities designed to solidify ideas, concepts, and tools presented in the classroom. In 2020 we offered several different capstone courses where student teams collaborated with community partners. EEDS majors worked with city and Ohio State staff to evaluate sustainable transportation, energy, and waste campaigns. FFW and NRM students collaborated with the Columbus and Franklin County Metro Parks, City of Columbus Recreation and Parks Department, Friends of the Lower Olentangy Watershed (FLOW), Green Columbus, and the Ohio Department of Natural Resources. ES and EPDM students designed restoration proposals to align the campus landscape with Ohio State's Sustainability Goals, and EPDM majors partnered with the City of Columbus to tackle water-quality issues. Our ES students developed multifunctional management and restoration plans for Antrim Park. We also offered a suite of field studies courses with hands-on application of concepts that enhanced experiential learning, including Forest Ecosystems, Avian Wildlife Biology and Management, Wildlife Ecology Methods, and Practical Skills for Ecosystem Restoration.



IMPACT

Capstone student projects contributed directly to improved ecosystem management by empowering local residents and informing local decision-makers. Students worked with 8 private landowners and collaborating agencies (e.g., ODNR, NRCS, SWCD) to produce actionable habitat management plans to complete course requirements. Specifically, our EEDS capstone projects continued to help local people, businesses, and public officials navigate a suite of complex sustainability challenges. Our FFW/NRM capstone projects assessed tree canopy coverage throughout Columbus neighborhoods; assisted other Columbus park managers with habitat management and restoration plans; collected data on silvicultural demonstration areas; and partnered to implement a maple syrup operation at Ohio State Mansfield. Our EPDM capstone students focused on urban water quality issues and developed strategies for adapting outreach and stakeholder engagement approaches to digital settings, as well as for addressing equity and broadening participation in environmental problem-solving, in partnership with the City of Columbus Department of Utilities. Additionally, our Practical Skills for Terrestrial Ecosystem Restoration course provided 50 students with ODA pesticide licensing and OFA chainsaw qualifications; they also contributed to restoration of 5+ acres of Ohio State's campus through removal of invasive species, woodland creation, and prairie restoration. Our capstone courses, internships, and field-based studies facilitated student career success, as evidenced by an 88% job placement rate for recent SENR graduates.

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