

Preparing Students through Experiential Learning in 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)

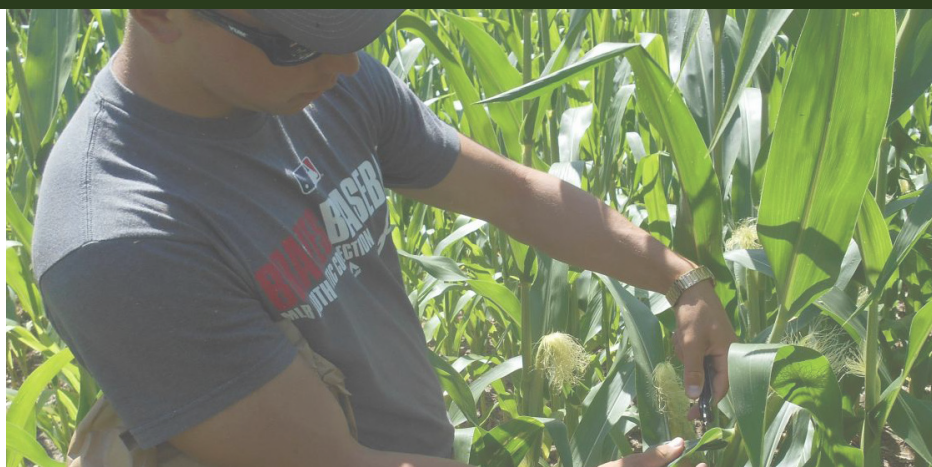
Impact Statement 2018

INVESTIGATORS

Steve Culman, Alia Dietsch, Matt Hamilton, Greg Hitzhusen, David Hix, Gabe Karns, Trish Raridan-Preston, Chris Tonra, Bill Peterman, Suzanne Gray, Matt Davies, Joseph Campbell

SUMMARY

One of the most dynamic ways the School of Environment and Natural Resources 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 seen notable success in 2018. These programs simultaneously fulfill the teaching, research, and outreach missions of the School.



SITUATION

A growing body of research demonstrates that hands-on experiences in which students apply theoretical ideas to real world situations is important to their learning process. **Employers indicate that they want college graduates to have more practical experience in collaborative, multi-disciplinary teams addressing real-world problems** as a way to transition students from their formal studies into successful careers, and research shows 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 systems, and to interact with professional natural resource managers. The complexity of contemporary sustainability challenges also invites integrative, experiential study which benefits from the immersive, real-world experiences provided by capstone courses, internships, and field study courses.

RESPONSE

Each of the five SENR majors includes experiential learning options designed to solidify ideas, concepts and tools learned in the classroom. These include:

Capstone courses where student teams tackled real-world problems:

- Capstone courses where student teams collaborated with community partners:
 - o EEDS majors worked with Smart Columbus staff to evaluate sustainable transportation and energy savings campaigns.
 - o FFW and NRM students collaborated with Columbus Metro Parks and Ohio State-Mansfield.
 - o ES and EPDM students designed restoration proposals to align the Campus landscape with Ohio State's Sustainability Goals.
 - o EPDM majors partnered with the City of Columbus Department of Public Utilities to tackle issues related to sanitary sewer overflows.
- **Field studies courses that enhance learning:**
 - o Forest Ecosystems, Avian Wildlife Biology, Wildlife Ecology Methods, and Ecosystem Restoration emphasize hands-on application of course concepts.
- **Agronomic Crop Research Experience (ACRE) internships linked students with county Extension educators and state specialists.**

IMPACT

- EEDS capstone projects continue to **influence local communities and decision-makers.**
- FFW/NRM capstone projects facilitated bioblitz and water quality events at Whetstone and Highbanks Metroparks for Earth Day, assisted other Columbus park properties with **habitat management/restoration plans, collected data on silvicultural demonstration areas and partnered to implement a maple syrup forest stand** at Ohio State-Mansfield.
- ES capstone students developed and pitched restoration plans for Ackerman Run (Waterman Farms), Olentangy Storm Water Wetlands, and sustainable landscaping at Kottman Hall to University managers and Ohio State Facilities Operations and Development staff.
- EPDM capstone students designed lesson plans, videos, and stakeholder engagement strategies to improve collaboration on green infrastructure projects, as part of Blueprint Columbus.
- The ACRE internship program continues to train the next-generation of agronomists, empower locally-directed on-farm research, and identify solutions to critical agronomic issues in Ohio, as highlighted in a summary program report.
- Terrestrial Ecosystem Restoration provided **enhanced professional development opportunities** by which students gained their Ohio Department of Agriculture pesticide applicator's license and gained chainsaw training from the Ohio Forestry Association.
- The impact of capstone courses, internships, and field-based studies on student career outcomes is evidenced by graduate data.

CONTACT

School of Environment and Natural Resources • 2021 Coffey Rd, Columbus, OH 43210
614-292-2265 • senr.osu.edu