



**Master of Environmental Management**  
**Master of Forestry**  
**VIRTUAL OFFICE HOURS**

# Duke' Nicholas School of the Environment

- Broad and flexible curriculum
- Dedicated career center
- Alumni network
- Commitment to diversity
- Study from the forest to the sea
- Faculty and student research
- Opportunities for collaboration
- Life in Durham and Beaufort
- Immediate impact



# Broad and Flexible Curriculum

- **Master of Environmental Management**
  - Business & Environment
  - Coastal Environmental Management
  - Ecosystem Science & Conservation
  - Ecotoxicology & Environmental Health
  - Energy & Environment
  - Environmental Economics & Policy
  - Water Resources Management
- **Master of Forestry**
- **Duke Environmental Leadership Master of Environmental Management (online)**

## Certificate Options:

- Geospatial Analysis
- Community-Based Environmental Mgmt.
- Climate Change Science & Applications

# Opportunities for Collaboration







## Coastal Environmental Management

### Master of Environmental Management

# What is the CEM Program?

## VISION

With a dual emphasis on **science** and **policy**, students gain knowledge to lead and work collaboratively toward sustainable solutions in coastal and ocean policy & management, research and conservation.

**OBJECTIVES:** *We strive to give students*

- A scientifically rigorous understanding of coastal environments and processes at the global, national and local scales
- A deep understanding of the human behaviors and policies that affect, and are affected by, coastal environments and processes.
- Opportunities to understand and participate in the policymaking process
- The knowledge and skills to apply quantitative and analytical methods of resource analysis
- The communication and teamwork skills needed to thrive in professional work environments

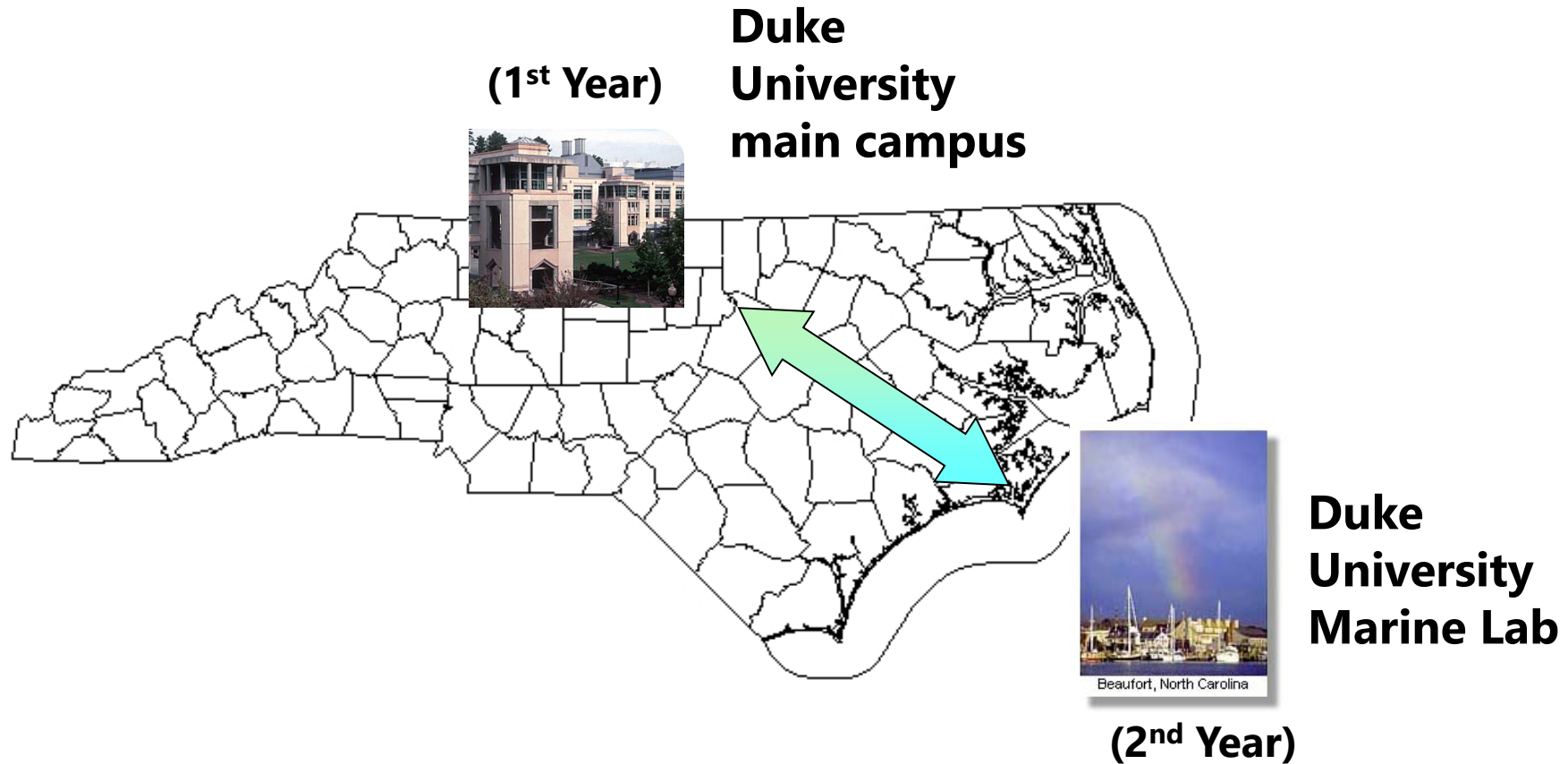


# MSC Faculty Research

- Marine Conservation Ecology
- Ocean Governance & Community-Based Conservation
- Marine Geospatial Analysis & Ocean Planning
- High Seas governance & management
- Fisheries
- Coastal & Wetland Ecology
- Deep Seas
- Microbial Oceanography & Ecology
- Oceanography



# Dual campus CEM Program

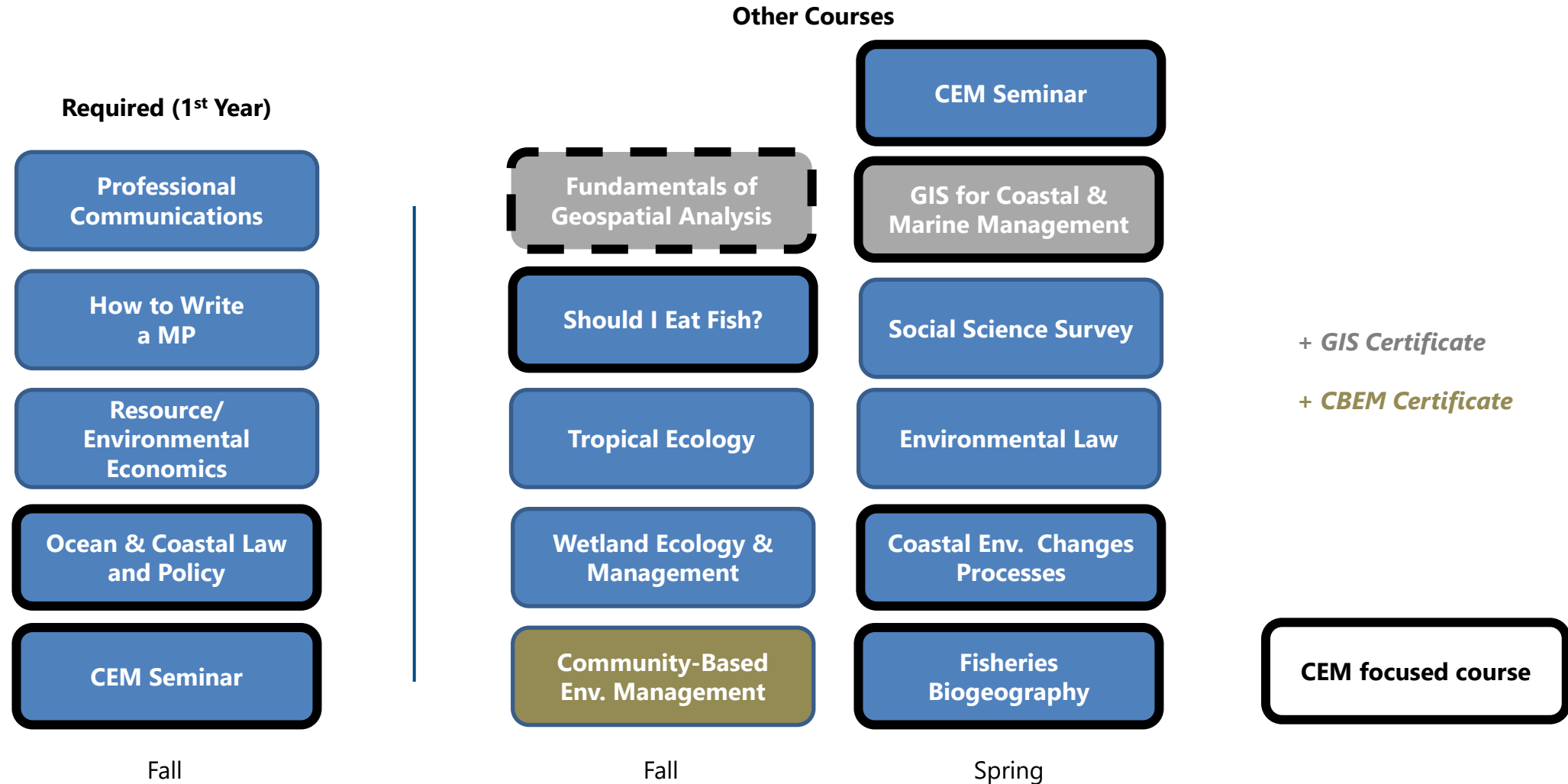




# Broad and Flexible Curriculum

- Marine Ecology
- Marine Social Science and Policy
- Management of Protected Species and Critical Habitats
- Marine Spatial Planning & Coastal Zone Management
- Marine Geospatial Analysis & Remote Sensing (also certificate)
- Community Based Management (also certificate)
- Fisheries and Aquaculture
- Ocean Health
- *And others that students design*

# Durham-Based Courses



# Beaufort-Based Courses

## Required (2<sup>nd</sup> Year)

- Marine Policy
- CEM Seminar

## Other Courses

- Advanced GIS (teleconference)
- Social Impact Analysis
- Bioacoustics
- Marine Ecology
- Marine Mammals
- Marine Climate Change
- International Conservation & Development
- Biological Oceanography
- Marine Fisheries Policy
- Coastal Watershed Science & Policy
- Theory & Methods for Policy Analysis

+ Spring Travel Courses

CEM focused course

# Additional Certificate Programs Available to CEMs

## Certificate in Geospatial Analysis



<https://nicholas.duke.edu/academics/certificate-programs/geospatial-analysis-certificate-program>



## Certificate in Community Based Management

<https://sites.nicholas.duke.edu/communitycertificate/>



# Employment Examples



# Outcomes and elements to success for a professional Masters Program

- Have faculty who actively work in the fields of ocean sciences, coastal management, and marine conservation and who engage in issues that are relevant to the target agencies that hire master's level professionals
- Make a commitment to provide students with meaningful internships and research experiences
- Provide direct support for job placement and career development
- Develop a strong pool of active alumni who can help mentor and assist new graduates with opportunities in the field



Group photo of students discussing a class on the porch at the marine lab, Beaufort, NC.

SIDEBAR

### The Duke Professional Master of Environmental Management: An Exemplary Program Responsive to Workforce Needs

By Patrick Halpin and Andy Read

# The Duke Professional Master of Environmental Management: An Exemplary Program Responsive to Workforce Needs

*Oceanography*, 2016

<http://dx.doi.org/10.5670/oceanog.2016.08>

CEM Student Alex Aines studying juvenile lemon sharks, Bahamas Research Permit MAF/FIS/17. Photo courtesy of Alex Aines (student)



The CEM curriculum includes courses and practical training in marine science, policy, economics, communications, and analytical tools. Coursework is designed to give students a scientifically rigorous understanding of physical and biological processes along coastal and ocean environments. Students also develop professional skills and learn how to use analytical tools to assess how human activities affect—and are affected by—this vital environment.

The track's sequence is unique because students spend their first year on Duke's main campus in Durham, North Carolina, and their second year at the Duke University Marine Laboratory (DUML) in Beaufort, North Carolina. The laboratory provides an ideal setting for the study of natural and social sciences in the marine environment, and allows our students to interact directly with coastal stakeholders and policymakers. Students also enjoy small class sizes, a low faculty-student ratio, and access to world-class marine research facilities.

During their first year on the Durham campus, students take core courses in ecology, natural resource economics, environmental policy, and methodological skills such as GIS, remote sensing, and statistics. To develop a full toolbox of skills, many complete additional certificate programs in other disciplinary areas within the university such as community-based management or entrepreneurship.

During their second year at DUML, students complete a capstone individual or group master's project and take courses specific to the coastal and marine environment. These courses include marine conservation biology, fisheries management, marine protected area management, coastal zone and community-based management, water quality management and coastal processes, and global change.

In their practical capstone work, students explore specific problems in their areas of concentration, often working with client organizations. Projects can take many forms, from traditional research leading to publishable peer-reviewed papers to more real-world efforts resulting in the production of policy white papers, training materials, coastal management plans, communications videos, or even citizen science mobile apps. A central tenet of our approach is to allow students to explore and use new and innovative media in their projects.

To further prepare these new professionals for careers in coastal management, we encourage our students to pursue internships during the summer between their first and second years. These opportunities may take a variety of forms, but the goal is to expose students to organizations and activities in their areas of interest and outside of the academic setting. These internships provide direct work experience and important networking opportunities.

In addition to the important role that faculty and alumni play in identifying new fields of study and emerging opportunities, the Nicholas School operates a dedicated Career and Professional

program that recognizes the different needs of individual students while maintaining high standards in the quality of both formal coursework and technical skill development.

Key elements that we recommend to others as essential for a successful professional program (but that are typically missing in traditional MS programs) are:

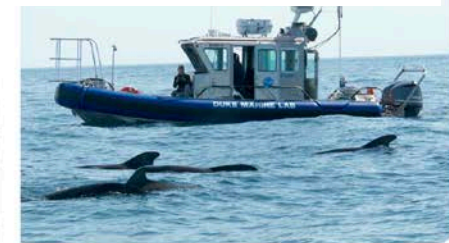
- Have faculty who actively work in the fields of ocean sciences, coastal management, and marine conservation and who engage in issues that are relevant to the target agencies that hire master's level professionals
- Make a commitment to provide students with meaningful internships and research experiences
- Provide direct support for job placement and career development
- Develop a strong pool of active alumni who can help mentor and assist new graduates with opportunities in the field.

The future trajectory for professional education in the field of coastal and marine management is very positive but requires the maintenance of responsive programs that anticipate future needs in the field. Successful programs will also need to provide opportunities for professionals to continue their education and skills development. Most importantly, graduates of these programs will continue to demonstrate their value through their actions, deeds, and accomplishments. That is the true measure of success in professional education.

#### AUTHORS

Patrick Halpin (phalpin@duke.edu) is Associate Professor of Marine Geospatial Ecology, Nicholas School of the Environment and Duke Marine Laboratory, Duke

for graduates in the fields of marine and coastal management, and (2) our dynamic and adaptive approach to a professional education



(ABOVE) CEM students studying short-finned pilot whales off Cape Hatteras on Duke Marine Laboratory's Research Vessel *Richard T. Barber*. Photo taken by Danielle Waples under NOAA Scientific Permit 16185

(LEFT) CEM student Erin Burke (left) collecting data on the effects of acoustic alarms on fish catches for her MP in 2004. The fisherman is Dave Swanner from Hatteras. Erin now works as a biologist for the Massachusetts Division of Marine Fisheries.

# Stay Connected



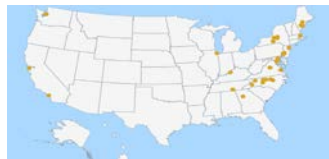
**facebook.com/dukeenvironment**



**twitter.com/dukeenvironment**



**instagram.com/dukeenvironment**



**Join us on the road, or virtually:**  
[nicholas.duke.edu/admissions/events](https://nicholas.duke.edu/admissions/events)



**Create/Update Your Prospective Student Profile:**  
<https://nicholas.duke.edu/admissions/request-info>





## CEM Faculty Co-Chairs



**PATRICK N. HALPIN**

Professor of Marine  
Geospatial Ecology  
Durham campus



**GRANT MURRAY**

Associate Professor of  
Marine Policy  
Beaufort campus

---

Our program prepares future leaders in the conservation and management of marine ecosystems, including the human communities that form an integral part of these systems.