BOSTON UNIVERSITY’s
GULF OF MAINE ENVIRONMENT BY SEA KAYAK

A Portrait of the Natural, Human, Marine Science and History of the Gulf of Maine

Overview of 2003 Course

Join Boston University and Maine Island Kayak Co for this in-depth 14 day, 4 credit college level study of the marine, natural and social environment of the coast and islands of Maine by sea kayak. The Gulf of Maine has been one of the principal fisheries on Earth, and now faces significant challenges from our changing ecosystem and mankind’s use patterns.

This experiential study of interrelationships with the sea combines exploration and exhilaration. Utilizing the sea kayak as our learning platform, we will immerse into the fundamentals of expedition sea kayaking while rigorously studying the interrelationships between: Oceanography from the Sea – an On-water Perspective; The H2O Cycle and the Gulf of Maine Watershed; Humans, Fisheries and Challenges for the Future; Casco Bay Geology - Granites to Glaciers; Applied Meteorology. This course will invigorate your mind, body and vision as we develop our paddling skills amongst the magical islands of Maine!

The fourteen day island-based format will begin at our base on Peaks Island, 3 miles East of Portland, ME, move to a base camp on Jewell Island on the outer edge of the Gulf of Maine for further study, and end with a crossing of Casco Bay to the unique and varied ecosystems of Popham Beach at the mouth of the Kennebec River below Bath.

Maine Island Kayak Co. has delivered high quality educational adventures by sea kayak in the Gulf of Maine since 1986. Its staff of professional expeditioners, Registered Maine Guides, Nordkapp Trust and B.C.U. certified instructors and coaches will introduce you to the wonders of going to sea in a small boat and learning the fundamentals of paddling skills and effective seamanship. For further information on MIKCO call for a 2003 catalog of Trips and courses, or visit our website at www.maineislandkayak.com.

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Course Details and Description

The following modules will be the basic building blocks for this portrait of the Gulf of Maine ecosystem. Please know that our primary goal of the course is to enhance your relationship with this unusual environment while developing long-term critical thinking of the important components and issues facing the Gulf of Maine.

Course Modules and Content:

Fundamentals of Expedition Sea Kayaking:

Learn the fundamentals of effective kayak skills and rescues while developing the all-important seamanship component to safe sea kayaking. This segment will cover paddling skills and rescues, wind & waves, tides & currents, navigation and route selection, trip planning, leadership and group control while journeying amongst the offshore islands of Maine. It is the intent to build a working model for safe expeditioning on the sea in a small boat. Students will have an opportunity to assess for BCU Star Certifications – a worldwide measure of personal skill.

Oceanography from the Sea – A Local Perspective:

Many of the processes that govern the world’s oceans can be seen on a small scale from a kayak. Tides and currents, wind and waves and the effects of landforms (including manmade structures) will be discussed, observed and experienced.

Gulf of Maine Lifeforms and Evolution:

The Gulf of Maine is home to massive numbers of a few well-known species. With system changes and changing consumption practices the human pressure on the Gulf of Maine’s animal life has eliminated some and challenged many additional species. We will be primarily focusing on the little creatures of mudflats and rocky tidal shores.

The H2O cycle and the Gulf of Maine Watershed:

One of the Gulf of Maine’s principal advantages as an intact ecological system is the significant infusion of large volumes of fresh water over the heavier salty sea. Rain, rivers, estuaries, seas, evaporation, clouds, rain, rivers are essential components of the
creation and distribution of life forms in this system. From the seat of a kayak we will examine elements of the hydrologic (water) cycle, and relate them to the distribution of deserts and rainforests, seasons, and the adaptations of organisms.

**Casco Bay Geology - Granites to Glaciers:**

Using the coastline and islands of Casco Bay as our classroom, this module will introduce the geological history of the region from plate tectonics, through glaciation and subsidence, to the present. We will observe and understand metamorphic folding, faulting, igneous injections and the remarkable effects of recent glaciation.

**Applied Meteorology:**

Weather is everywhere and is what makes Planet Earth’s environment unique. These daily segments will use basic physical principles flowing from the heat/water engines, visualization from extensive internet based resources, and our own observations, as the basis for understanding the processes that generate weather, both locally and globally.

**Instructors and Presenters:**

*The Head Instructor for the Environmental Science modules will be:*

Dr. Johan Erikson. Dr. Erikson received degrees in geology from Dartmouth and Stanford, and has held positions at Cornell, the Univ. of California at Davis, and Dartmouth. In addition to his research and teaching experience, he has spent years living in and about Casco Bay and brings a studied worldview to our Gulf of Maine curriculum.

*Kayaking, Oceanography, Meteorology modules will be overseen by:*

Tom Bergh, founder of MIKCO, Registered Maine Guide, BCU Coach 4, Level 4 Assessor, ACA Instructor, recovering attorney, JD Univ of Denver, has been designing and delivering MIKCO’s curriculums since its formation in 1986, and dedicated to creating Peak experiences amongst the islands of the world’s oceans. In addition to the Gulf of Maine, Tom has expeditioned in Gulf of Alaska, Antarctica’s So Shetland islands, Mexico’s Sea of Cortez, Irish Sea and Canadian Maritimes


*Marine Biology segments will be overseen by:*

concentration. Susan serves on the Board of Directors of Maine Search and Rescue, operates Sunrise Search and Rescue, and recently completed a multi-year snapping turtle genetic research project, the results of which are currently working their way through the political process of turtle protection in the Maine legislature.

Additional presenters may include:

Stephen Maynard, MIKCO’s Head Coach, a BCU Coach 5, Level 5 Assessor from Saint Davis, So Wales, U.K. will bring a North Atlantic perspective to the Meteorology and Oceanography blocks. Steve has expeditioned extensively in Wales, the Scottish Isles including the Outer Hebrides, North Sea, Sea of Cortez and European waters.

Michelle Garcia. Environmental science teacher completing here Masters of Education, Michelle has been linking together upland and coastal ecosystems as an educator for 3 years.

Reading List:

Primary Course Texts (you must bring with you for daily assignments & reference).

Required Pre-Course Reading (we will presume you have read the following).


Primary Meteorology Text – recommended pre-course read. We will presume that you understand the basics represented by this text. You will enjoy this simple presentation


Additional related texts for your consideration or for further study (not required).

*Marine Life of the North Atlantic, by Andrew J. Martinez, Down East Books


Our Ecological Footprint by Mathis Wackernagel & William Rees, New Society Publishers


The Edge of the Sea by Rachael Carson, Houghton Mifflin Co

Islands of Maine by Bill Caldwell, Versa Press

Living with the Coast of Maine by Joseph & Alice Kelley and Orrin Pilkey Sr., Duke University Press

Practical Guide to the Marine Animals of Northeastern North America


The Tidemarsh Guide by Mervin F. Roberts, E.P. Dutton

Reed’s Nautical Almanac – East Coast 2002

Eldridge Tide and Pilot Book 2002

Mariner’s Weather by William P. Crawford, W.W. Norton & Co
Credits & Evaluation:

Certified for 4 Boston University system credits. Participant grading will be based on research/mapping paper, public presentation, mid-course & final exam, and overall contributions to the course.

Pre-requisites:

None except a general interest in environmental sciences and outdoor activities and reasonably physically fit. A firm commitment to active participation with the content and other students is required. Instructors will presume that the required reading list has been completed. The suggested reading list will be relied upon for those with focused interests.

This curriculum is designed as an intensive, hard working, engagement in the Gulf of Maine Marine Environment. It is not recommended for those seeking relaxing time-out or for anyone without a solid commitment to long hours and intensive hard work while living outside in a self supported mode in varying weather conditions.

Research/mapping project:

Each student will be assigned and expected to develop one research project requiring relevant observations on a regular basis, and will be asked to submit a short paper for assessment along with a public presentation of his/her findings.

Group 1: What living organism members are present in an intertidal mudflat and on the rocky coast?
Students will record observations of presence/absence/abundance/habitat whenever observations can be made whenever we are in close proximity to the intertidal zone.

Group 2: What is the pattern of tidal currents in Casco Bay?
Students will record hourly observations of location/time/current direction and approximate velocity whenever we are near or on the water.

Group 3: What are the distribution and niche conditions of Eelgrass and Knotted Wreck (Ascophyllum)?
Students will record observations of presence/absence/abundance/ habitat whenever observations can be made whenever we are in close proximity to the intertidal zone.
Registration Details and Cancellation Policy:

Participants must complete and provide MIKCO’s required Registration Form, Confidential Health Form and a Waiver of Liability and Release. Any cancellation will require compliance with Boston University’s cancellation policy and advance notice requirements and MIKCO/BU’s ability to fill your space.

Expected Weather Conditions and Equipment Requirements:

Gulf of Maine weather will include on average air temperatures from 50 – 70 degree F, water temps of mid 50 degree F, winds build during the day and may average 10-15 knots, seas generally 1-3 feet except during storms, on average we have a day of rain per week, some foggy days likely, bugs should be minimal.

MIKCO will provide all kayaking related boats and gear, communications and safety equipment, meals and snacks, camp equipment and utensils, tents and tarps. Participants to provide their own land clothing, sleeping bags and pads, basic polypropylene clothing, fleece and rain gear. See the attached list.

Course will be run regardless of weather with MIKCO determining safety limitations for on-water segments.

Walking/Hiking Maine’s Tidal Zone and Islands:

Maine’s islands are often extremely delicate environments and usually quite small. Heavy boots are not appropriate. Light shoes, sneakers or an extra pair of surf or water shoes are plenty unless you are prone to ankle problems. Sticky soles will be appreciated. Sandals are not recommended on the rough, rocky coast of Maine.

Medical Emergencies:

MIKCO’s instructors and guides are trained in basic first aid and carry limited supplies. As we are traveling off the beaten path, medical backup may easily take hours to half a day to reach us. You must let us know of any special medical conditions, restrictions or concerns, such as diabetes or allergies to foods or insects, weak shoulders or back, to allow us to insure the entire group's safety. You must bring your own prescription medicine.

Low Impact:

MIKCO has pioneered a serious level of minimal impact as many of the islands are extremely sensitive, tundra-like ecosystems. It's different and fun. We remove all wastes.

Fresh Water:

During the field segments of this course we will be carrying all of our drinking &
cooking water in our kayaks as few of the islands have reliable fresh water.

**Arrival, Room & Board:**

The course runs from June 8-21, 2003. It will begin at MIKCO’s Peaks Island boathouse on Peaks Island, 3 miles by Casco Bay Lines ferry from Portland at 8:00 AM on the morning of June 8th, 2003. Course will end back at MIKCO’s Peaks Island boathouse at 5:00 PM on Day 14. While on Peaks Island, participants will be housed in the turn of the century Eighth Maine Regiment Memorial building located on the southern shore of Peaks Island for the first seven days of the course. Thereafter you will be living in tents (supplied) out on the islands of Casco Bay. All meals are supplied from lunch on Day 1 through lunch on Day 14. Vegetarians and some other restricted diets can be accommodated – please let us know. If you need housing the night before the course begins we can provide recommendations or see our website.

**Directions to MIKCO’s Peaks Island boathouse or Eighth Maine Regiment:**

See attached document “Directions to Peaks Island Boathouse”. We will meet any Casco Bay Line ferries that we know you are catching. Please let us know of your arrival so we can assist your transport to our boathouse or Eighth Maine Regiment.

**Cost:**

$3,100 per Boston University participant, deposit of ½ payable 120 days prior and remainder 30 days prior to the course based on a minimum of 10.

MIKCO is looking forward to this course - Boston University’s Gulf of Maine Environment by Sea Kayak. If you have any questions we hope you’ll call us at 800-796-2373. Until we get a paddle wet…

Good Journeys,

June O’Neill and Tom Bergh
Maine Island Kayak Co.

Enclosures
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Personal Equipment List

Choose equipment that will serve you well. Your selection is part of this journey. Volume is more important than weight. Generally people bring too much. Weatherproof is very important. We recommend "poly", as cotton is dangerously cold when wet. Temperatures generally 50-70s. Some rainy days likely. Certain sea kayak hatches are as small as 7” in diameter, so plan your gear accordingly.

MIKCO PROVIDES - Guides, all kayak and camp gear, dry bags, tents, cooking gear & utensils, safety & rescue gear, and meals beginning with lunch on the first day through lunch on the last day.

YOU PROVIDE - Personal clothing, sleeping bag & pad when in the field, transportation to and from course meeting point…and your enthusiasm.

Required Texts:


Additional Required Materials:

Waterproof chart of Casco Bay (101E)
Write-in-the-rain notebook
2” three-ring binder or equivalent organizer
#2 pencils
ball point pens
Clothing:
- Old sneakers, wet suit booties or surf shoes for ocean. (No sandals allowed in the kayaks)
- Sneakers or light shoes for dry land
- 2 pr. of socks, poly or wool
- 2 pr. Long underwear or tights and poly or comfortable pants
- Poly fleece (pile) jacket or wool sweater
- Rain gear. Hat, jacket, pants (Will serve as wind and rain gear – pay attention here)
- Baseball type cap or sun visor & ski type warm knitted hat
- Turtleneck or heavier shirt and T-shirt
- 2 pr. Quick drying shorts
- Dry land clothing. 1-2 pr. Long pants, 1-2 pr. shorts, 2 cotton t-shirts, underwear, socks. (Peaks Island has a Laundromat)
- Waterproof watch

Camping:
- Summer sleeping bag (down or fiberfill, not cotton). The smaller the size the better; consider a compression stuff sack for the little hatches in sea kayaks.
- Ground pad (3/4 ThermaRest recommended)

Personal:
- small backpack, water bottle, headlamp & extra batteries or small flashlight, personal toilet kit, small towel, bug repellent, sunglasses w strap, sunscreen, chapstick, biodegradable soap, pocket knife or multi-tool

Optional:
- Binoculars, camera with waterproof storage, mask and snorkel, fanny pack or day pack, baby wipes, bathing suit, paddling gloves & jacket, wetsuit, small ditty bags, book, journal, camp chair

If Possible:
- Laptop computer, Bicycle
Directions to MAINE ISLAND KAYAK CO’s Peaks Island Base

Portland is 100 miles North, 2 hrs from Boston, approximately 1 hr from Portsmouth, NH. If you are arriving from the South take Rt 95 North, the Maine Turnpike. Approximately 50 miles into Maine, take Exit 6A onto Route 295 - a highway that takes you to Portland proper. In 3-4 miles you will see Portland on the hill on your right. You will take the Franklin St exit (after Congress and two Forest St exits). Turn right (toward the ocean) onto Franklin, a divided city street and then go 1/2 mile up the hill, then 1/2 mile down the hill. Franklin will T onto Commercial St and you will see straight ahead the Casco Bay Ferry Terminal Parking Garage. Go around the North (left) side of the garage and you’ll see the terminal spread out on your right across from the whale wall. Go inside and make your arrangements.

The Casco Bay Lines Ferry phone number is 207-774-7871. You want a ticket to Peaks Island. There are no reservations. People travel for $6 RT, cars for $60 RT depending on day and season. Your car is not needed on Peaks. Parking is available for a fee in Portland or can be arranged for on Peaks Island. Ferries do leave on time. Leave enough to get yourself sorted out.

We will meet all ferries that we know carry our guests. If you arrive without our knowledge, MIKCO’s boathouse on Peaks Island is the large brown shingled boathouse with large white doors located 200 feet North (left) along the water from the Peaks Island ferry landing. Or walk up the street from the ferry past the Peaks Island Cafe, turn left at the candy store, and then left again down the dirt driveway between the Post Office and Hannagan’s Market.

Parking Lots in Portland:

Casco Bay Parking Garage, Commercial St. 774-8653 $1/hr; $14/overnight

Fisherman's Wharf Parking Lot, 202 Commercial St. 773-6649 $2/hr; $5/day; $7/overnight-out by 7 a.m.

Custom House Square Garage, 25 Pearl St. 774-2203 $1/hr; $8/overnight

Fore Street Parking Garage, Fore St. 772-7738 $1/hr; $12/overnight

Harbor Plaza Parking Garage, Union St. 775-3788 $.75/hr; $10/overnight

Temple Street Parking Garage, 11 Temple St.
772-5762  $1/hr; $12/overnight