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Classroom on the Coast

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Students probe tide pools inside the ocean-worn sandstone walls of Devil's Punchbowl near Otter Rock during the DCE Shoreline Ecology course in Newport. Cavern walls are tinged with red algae, which thrive on spray from the churning water.

Classroom on the coast

Oregon's shoreline provides a rich setting for ecological discovery

Leaning over a tide pool in the depths of Devil's Punchbowl, Aubrey Clark '05 nudges a purple creature clinging to the side of a water-worn rock. Though her textbook describes the sea urchin as spiny and hard-shelled, Clark wants to see for herself.

"It looked as if it would be soft to the touch, but quite the contrary," she says. "It felt hard and strong, probably to fend off the bad guys."

For Clark and other members of the summer Shoreline Ecology class, discoveries are plentiful during a five-day travel course on the Oregon Coast. Led by Ned Knight, adjunct professor of biology and environmental studies, the class spent two days at Linfield College before trekking to Newport to explore coastal

environments and the organisms that live there.

Just two hours from McMinnville, Newport's open-air classrooms give students a chance to pull on their boots and wade through coastal environments, sometimes for the first time. Linfield's strong emphasis on field study, coupled with Oregon's rich ecological diversity, makes travel courses an unparalleled opportunity, according to Kareen Sturgeon, professor of biology. She teaches *Classification of Plants and Plant Communities* and guides students from western to southeastern Oregon, tracing a route she likens to driving from the equator to the arctic.

"We see vastly different ecosystems along the way," she says. "There's no substitute for engaging in a field experience."

On this particular July morning, the group rose before dawn to catch a rare minus tide inside Devil's Punchbowl, a giant cavern near Newport's Otter Rock. Normally churning with thousands of gallons of seawater and spouting spray high into the air, at 6 a.m. on this day, it is drained.

The morning air is damp and cool as students clamber down a winding path to the beach and punchbowl entrance. Inside, voices echo off cavern walls brushed red from spray zone algae. Looking up from the chamber floor, blue sky is framed by the bowl's edge 40 feet above.

Students step gingerly to avoid crushing marine life as they wander among tide pools jotting notes, taking measurements and sketching sightings in their field notebooks. Some use colored pencils to bring their drawings to life.

"This guy looks like a wrinkled-up donut," notes Clark of an aggregated anemone, entering it in her field book. Clark, who works in public affairs at Intel, is taking the class as her final requirement to complete her management degree through Linfield's Division of Continuing Education (see sidebar, below). It's a fitting end to a fulfilling eight-year experience.

"I've seen places that I never knew existed in the Newport area and I can't wait to return with friends and family to point out some of my new finds," she said. "Being out of the classroom and actually doing and seeing what you are learning about is absolutely great."

DCE at a glance

The Adult Degree Program through the Division of Continuing Education is designed to help working adults through traditional and online classes.

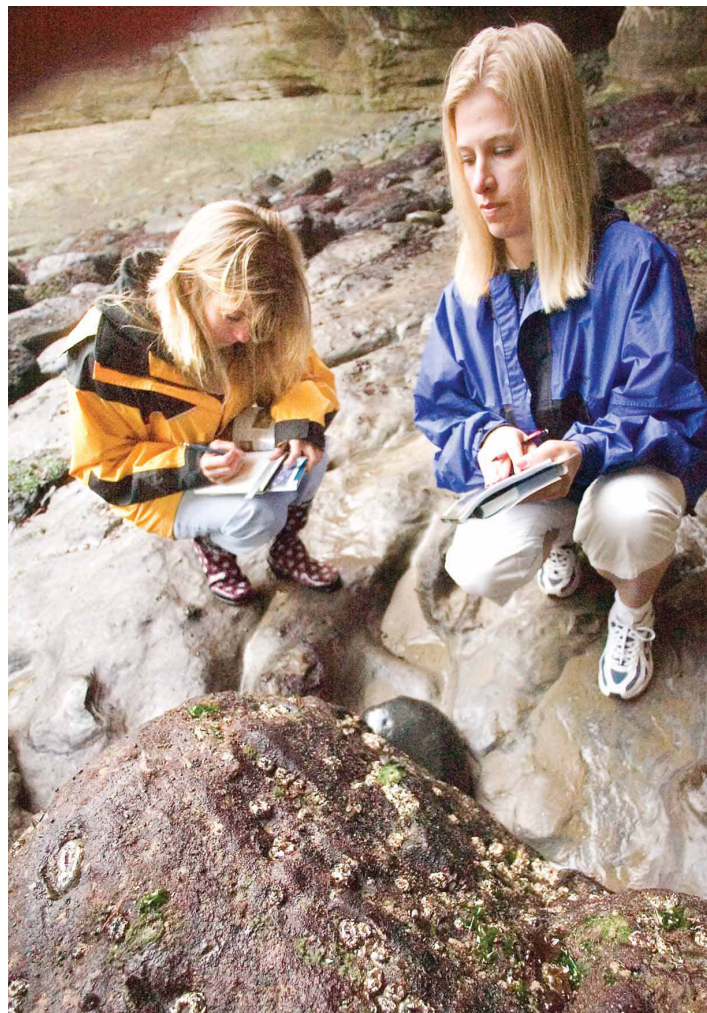
Students enrolled: 500+

Average years to degree: 2

Average student age: 37

Majors offered: 7 (*accounting, arts and humanities, business information systems, international business, management, social and behavioral sciences, nursing*)

DCE centers: 8 (*Albany, Astoria, Bend, Coos Bay, Eugene, McMinnville, Portland and Salem*)



After spotting an aggregated anemone clinging to the base of a rock, Aubrey Clark '05 (left) and Kim Taylor '07 record their discovery in field journals documenting the five-day class.



Ned Knight has led the Shoreline Ecology course for 10 years, incorporating concepts of ecology, geology and physical science while introducing students to the natural history of the coast.

Knight wanders among the students, checking on groups, answering questions and making discoveries of his own. Though it's his 10th year leading the class, he beams after spotting a school of shiner perch in a tide pool.

"I've never seen them here before," he says with a grin. "I never get tired of coming to these sites. I learn something new each time."

Knight's enthusiasm is contagious. He says there is a world of difference between a classroom in Murdock Hall and a classroom in Devil's Punchbowl.

"Everybody loves being outside," adds Knight, who has taught at Linfield since 1992. "And you learn so much more by seeing, touching and feeling everything than you can seeing it written on a blackboard."

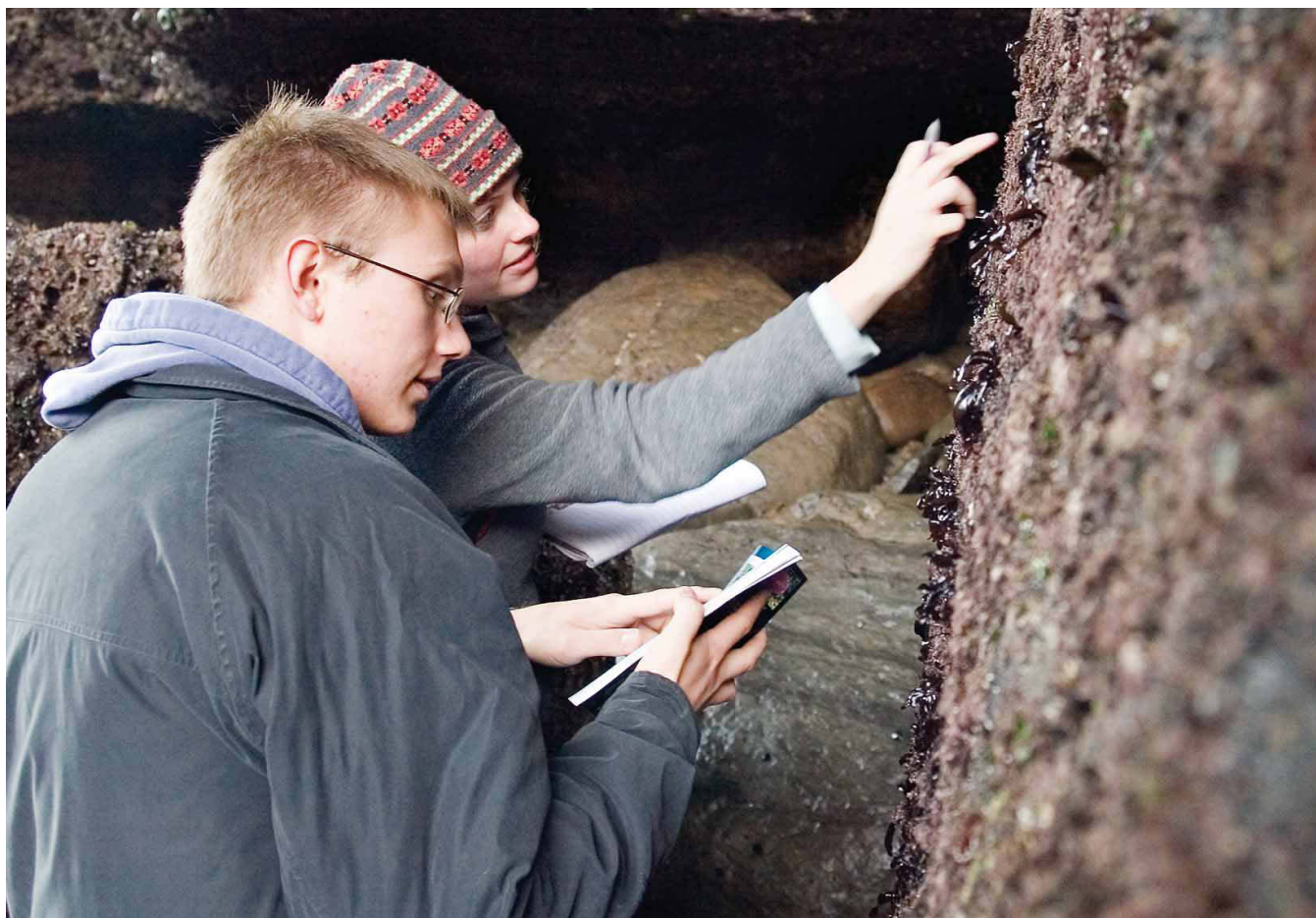
Many students, like Candace Keillor '06 of McMinnville who is studying to be a teacher, brought friends or family members along to explore the coast with them.

"They're surfing while I'm looking at slimy stuff," she says, using a pink hand trowel to scoop up a specimen for a closer look.

As the tide begins to inch back in, Knight leads students a few miles up the coast to the next site – the Siletz Bay National Wildlife Refuge. There, hosted by Fred Seavey, United States Fish and Wildlife Service biologist, students slosh through marshy terrain to the slough's edge to examine the rebirth of a wetland. Caught in the mud's suction, some students find themselves bootless during the hike.

Three years ago, when Knight first brought Linfield students to the site, giant manmade dikes separated the bay from what was then farmland. The 100-acre preserve has since been restored to a natural estuary, a body of water between the bay and the river where habitat adjust to the change between salt and fresh water. Seavey's team, along with biologists from the Confederated Tribes of Siletz, is using underwater video cameras at four elevations to monitor juvenile salmon use of the habitat and tidal channels. They've found the salt water is changing the vegetation in and around the estuary communities.

"This is very gratifying to see the project has been successful," Seavey says. The area is now available to



Bailey Pridgeon (left) and Kathryn Adams '07 use a field guide to identify an ocean plant.



Students help each other through marshy terrain during a hike to view an estuary restoration project at the Siletz Bay National Wildlife Refuge.

species including chinook and coho salmon, cutthroat trout and a variety of marine fish.

After lunch, students continue their coastal exploration with tours of a U.S. Coast Guard station and the Oregon Oyster Farm. Knight says the trip's varied sites provide examples of how to exist cooperatively with the environment and repair damage from past indiscretions.

"It's also important and enlightening to see the genuine enthusiasm of the people carrying out these projects," he adds.

The class is but one of many that Linfield offers which are relevant to today's environmental issues, according to Marvin Henberg, interim Linfield president. Henberg was instrumental in designing Linfield's environmental studies major and he continues to tout environmental education.

"This program brings together traditional and adult students, helping them to better understand the intricacies of the environment, whether on the coast, in the valley or in the mountains," Henberg says. "The 21st century is the century of the environment."

Mary Sue Reynolds '07 of Sweet Home has a new awareness of the environment and hands-on learning after taking the Shoreline Ecology course.

"You learn from the speakers who live in the area and deal with the subjects day in and day out," says Reynolds, a coordinator at the Linn Benton Community College Sweet Home Center. In addition to taking courses on location, Reynolds has enrolled in other Linfield classes online as she pursues her bachelor's in management. She says the flexibility is a lifesaver.

"I can work on my classes at midnight if I want," she explains.

At the end of the week, Knight hopes students come away with an appreciation for the diversity and fragility of coastal life, and also for efforts in preservation and habitat improvement. That message hit home with Jonathan Stanfill '06 of Lincoln City, for one.

"We are all important parts of an ecosystem and as a human being I have a stewardship role to fulfill," says Stanfill, who will earn a management degree next spring and plans to pursue graduate studies after that. The travel classes have been some of his favorites.

"Going out and researching the material on location gave it more depth," he continues. "To accurately understand shoreline ecology, you have to experience it firsthand as an explorer."

— Laura Davis

Alumni can receive a 20 percent discount on tuition for one Linfield Division of Continuing Education course each year through the Return to Learn program. For more information contact DCE at 1-800-452-4176 or <http://www.linfield.edu/dce/>.

2006 DCE summer travel courses

Tropical Reef and Rainforest, Australia

Shakespeare in Ashland, Ashland

Shoreline Ecology, Newport

Sailing, Columbia River, Cascade Locks

Fire History of the Cascades, Jefferson Wilderness Area

Native North Americans, Columbia Gorge and Vancouver Island



Kathryn Adams '07 sketches in her field book at the Siletz Bay National Wildlife Refuge.