

Course Descriptions

Algae - Autotrophs of the Sea

Algae, the plants of the sea, are commonly known as seaweed. But what are they and what do they do? We learn about different types of algae, the role they play in marine ecosystems and some of the great things that we use them for, and who the big algae eaters are.

Barrier Islands - Land Divided by the Sea

Sanibel and Captiva are barrier islands which are fascinating, dynamic environments – from their formation to the types of biological diversity they support. We learn how islands like Sanibel and Captiva are formed, how they change through time and biologically, how they are different from the mainland.

Biodiversity - All Creatures Great and Small

The word “biodiversity” describes the variety of life, from the tiniest bacteria to the most enormous whale. We celebrate biodiversity and the bounty of life in Southwest Florida by observing and exploring our local ecosystems. Just how many creatures might our islands be home to? And what’s missing? Ever seen a squirrel on Sanibel?

Bivalves - Two Halves of the Same Shell

Mollusks have the second highest number of species on the planet – second only to insects. And, bivalve mollusks are the most diverse of the mollusks. We learn a bit about these successful creatures and collect specimens from the beach to identify them.

Calusa - Evidence of a Lost Culture

Ages before European settlers arrived on our shores, the Calusa made their home here. We learn about these early inhabitants, how they influenced the islands, and what we think their lives might have been like. We travel to a Calusa mound to discover what they left behind, and see if we can imagine ourselves a part of this lost civilization.

Crabs - Crazy 10-Legged Critters

Crabs are ubiquitous members of the ocean community, making their living in as many ways as there are species. We explore the diversity of body types and lifestyles into which these animals have evolved. We also examine their unique biology, including their ability to grow despite their hard shell.

Dolphins - Flipping Through Life

What's not to love about dolphins? In this course, we explore the underwater world, learning how differently dolphins "view" the ocean from the way we do. We also enrich our understanding of their social nature, hoping to encounter a playful pod in their natural environment.

Fiddler Crabs - What's With the Fiddle?

Male fiddler crabs are adorned with one extremely large claw. This claw is mostly used for communication and to attract a mate. Fiddler crabs live on still, calm shorelines, and are a fun part of the marine fauna of Southwest Florida. We explore their habitat and marvel at the sheer tonnage of mud they clean up for the estuary.

Fish - What's Better than a Fish?

More successful than the dinosaurs, and much older than we are, fish are the most diverse group of vertebrate animals on

Earth. Here on Sanibel and Captiva, our scaly friends surround us. As we collect and identify the common marine fishes of Southwest Florida, we learn how they breathe, hear, and communicate underwater.

Freshwater and Gators - Where There's a Baby, There's a Mama

Freshwater can be the limiting factor for land animals and plants living on a barrier island. Sanibel is blessed with a natural supply of surface fresh water. We learn about Sanibel's freshwater habitats and how they affect the local flora and fauna. In addition, we study one of the wetlands' most notorious inhabitants, the American Alligator. Join us as we learn more about this alluring and awe-inspiring creature, and debunk myths about its killer instincts.

Frigatebirds - The Flying Pirates

In Hawaiian, frigatebirds are known as iwa, or pirate birds. They make their living snatching fish from other seabirds. Capable of gliding at very high altitudes, frigatebirds build their nests on secluded mangrove islands around Sanibel and Captiva. Sometimes you just gotta lie on your back in the sand and look up to learn.

Gastropods - A Twisted Tale

Snails are known to scientists as the gastropod mollusks, which literally means that they have "stomach feet." Their uniquely twisted bodies and iconic spiral shells make them hard to ignore. The gastropods found on our shores are as rich as those found anywhere in the United States. We explore their biology and behavior, and learn how to identify some of our local shells.

Horseshoe Crabs - Our Link to Prehistoric Days

Horseshoe crabs have been living in the shallow oceans since long before the dinosaurs were around. In this course, we have a look at this living fossil and discover that it is more closely related to scorpions and spiders than other crabs. We try our best to find a live one and discover a bit about its biology.

Jellies - Pursuit Predators

With a body that lacks advanced organs and is 98% water, it's amazing that jellies have been swimming in our oceans for over 500 million years. We will discuss the simplicity of the jelly and discover some of their specialized adaptations used to capture prey. We will learn which jellies we might encounter in the Gulf around Sanibel, which ones are safe to pick up, and why we sometimes find them blooming in masses near our shorelines.

Manatees - Mermaids Among Us

Manatees are an iconic part of our shallow-water habitats in Southwest Florida, yet they are highly misunderstood. We hope to get a glimpse of these endangered mammals, learn about their unique biology and migration habits, explore why they are so vulnerable to boat injuries, and ponder how something so hulking can be so graceful.

Mangroves - Trees that Feed the Sea

Through photosynthesis, mangroves link the sun to the sea. These salt-adapted trees capture much of the energy that drives our marine communities and provide habitat to many species of wildlife. We learn how mangroves grow in salt water and explore the rich communities they support. We slog through a mangal (the term for a mangrove forest) and experience – first-hand – the riches of this environment.

Ospreys - Master Fishermen of the Sky

Excellent fishermen, ospreys spot their prey from high above the water, then dive to snatch it from the ocean with specialized talons. We watch ospreys in action and examine some of the adaptations that better allow for their way of life. It's hard to believe they were once very, very rare. We also study this important conservation success story.

Pelicans - Acrobatic Divers

"The magnificent bird, the Pelican – its beak can hold more than its belly can." Pelicans are emblematic members of our local marine community. In this course, we explore the biology of the bird, observe pelicans in action and examine them as another example of a modern conservation success story.

Pirate Legends - Was That a Jolly Roger I Saw?

What have people done on Sanibel and Captiva since the Calusa were here? Legend has it that pirates loved these islands, and the US Navy had to come and chase them away to make it safe for farmers, fishermen and other settlers. We learn some surprising things about our islands and separate some fact from fiction. Yarrrrrrr!

Plankton - Adrift At Sea

Plankton were named the "drifting creatures" long before we learned about their complex swimming behaviors. These are the plants and animals that, in many ways, support all life on our planet. We learn about plankton, collect it in specialized nets, and identify it with the microscopes back in the lab. We promise, you will never look at a drop of water quite the same way again.

Sea Turtles - One in 3,000 Chance of Survival

Southern beaches provide excellent nesting habitats for these amazing animals. We will learn all about this local resident, and perhaps, based on the season, even see the tracks from a nesting female, and the nest she left behind. We will also learn about efforts to conserve these captivating creatures.

Seagrass - There are Flowers Under the Sea?

The estuaries of Southwest Florida support rich seagrass communities. These plants are most closely related to flowering land plants and are vital to the survival of many marine critters, from nearly microscopic shrimp to enormous fish. We learn about seagrass beds, and explore them by foot to see firsthand some of their inhabitants.

Seahorses - The Ultimate Mr. Mom

Famous for their role reversal in reproduction, seahorses are arguably the coolest fish on the planet – just ask any mom. Seahorses are also masters of disguise, camouflaging themselves in our local seagrass beds. We explore their habitats and learn about their voracious appetites. And who knows, we might just find a pregnant male!

Sharks are Fish, Not Foe

Here's where we separate truth from tale about our friends, the sharks. If we could swim with the sharks every day, we would. Sharks are misunderstood creatures and we try to set the record straight so we can all better appreciate these imperiled ocean predators.

Shorebirds - The Real Peeps

Those little guys playing tag with the waves, darting to and from the water's edge, and never seeming to get wet. Shorebirds are

conspicuous members of the beach community, but who are they and what do they do? We examine physical aspects of these birds to see how they avoid directly competing with one another. We also explore their impressive feats of migration, as we are graced by the presence of shorebirds from around the world during different times of the year.

Skates and Rays - Flattened Fish

Spending most of their time undulating along the sea floor or burrowed beneath the sand, skates and rays have a flexible, flattened body. We will learn why this body plan is beneficial, discuss some similarities to their close relatives - the sharks, and try to catch a glimpse of a ray resting in the shallows.

Squids and Octopi - Naked Mollusks

Close relatives to snails and clams, these animals either have their shell inside their body, or have no shell at all. Squids and octopi are perhaps the most intelligent invertebrate animals, and although we can never be assured of finding one, we go on an octopus hunt, immersing ourselves in their likely haunts. We also explore the anatomy and behavior of these wonderful marine creatures.

Swash Zone - Life Between the Grains

The space between the grains of sand beneath the crashing waves is a fascinating and exciting place. We get to know some of the water line's inhabitants, including mole crabs and coquina. We also study the important relationships these animals have with one another in this unique microworld.

The Rocky Intertidal Zone - Attached at the Edge of the Sea

The zone between shore and ocean is biologically rich and

environmentally challenging. Many different creatures attach to hard surfaces, where, because of changing tides, they are both under water and exposed to air at different times of the day. We're going to explore some of these habitats and discover the plants and animals that make this harsh environment their home.

The Soft Intertidal Zone - Traipsing Through the Muck

Southwest Florida's shoreline is replete in soft sand and mud. The rich area between the tides is filled with plants and animals of all shapes and sizes. In this course, we muck through the mud and sand, encountering fascinating creatures up close and exploring the best of this dirty world. There's nothing better than this dirty job.

Tides - Where Did The Ocean Go?

The moon's cycle is the basis of our calendar, and it affects the living inhabitants of Planet Earth. Nowhere is this more evident than at the edge of the ocean, where the gravitational pull of the moon (and sun) creates the tides. Here we learn about tides and how the moon's gravitational pull shapes the oceans on the planet.

Urchins, Dollars, and Stars, Oh My!

The spiny-skinned creatures, echinoderms, are the only major group of animals that live totally in the ocean. We explore their unique traits, and discover some of the many roles these animals play in marine communities.

Wading Birds - Birds on Stilts

Birds are amazing, diverse creatures. Wading birds look down on the water from their lanky stilts and add color and diversity to our local environments. We observe our local wading birds, learn

some of the most common local species and study their methods for feeding from atop those long legs.

Waves - The Motion of the Ocean

We all love waves, whether we enjoy watching, riding, or playing in them. In this course, we explore how waves are formed and how we describe them. We learn to measure waves, and we might just try to catch a ride on one or two.

Wrack Line - "Sea" What Washed Up

Marine debris left on the shore at the high tide is called the wrack line. A treasure trove of creatures and organic matter, it is used by many organisms for food and shelter. In this course, we dig into the wrack line, taking note of its properties and observing some of the organisms that depend upon it.