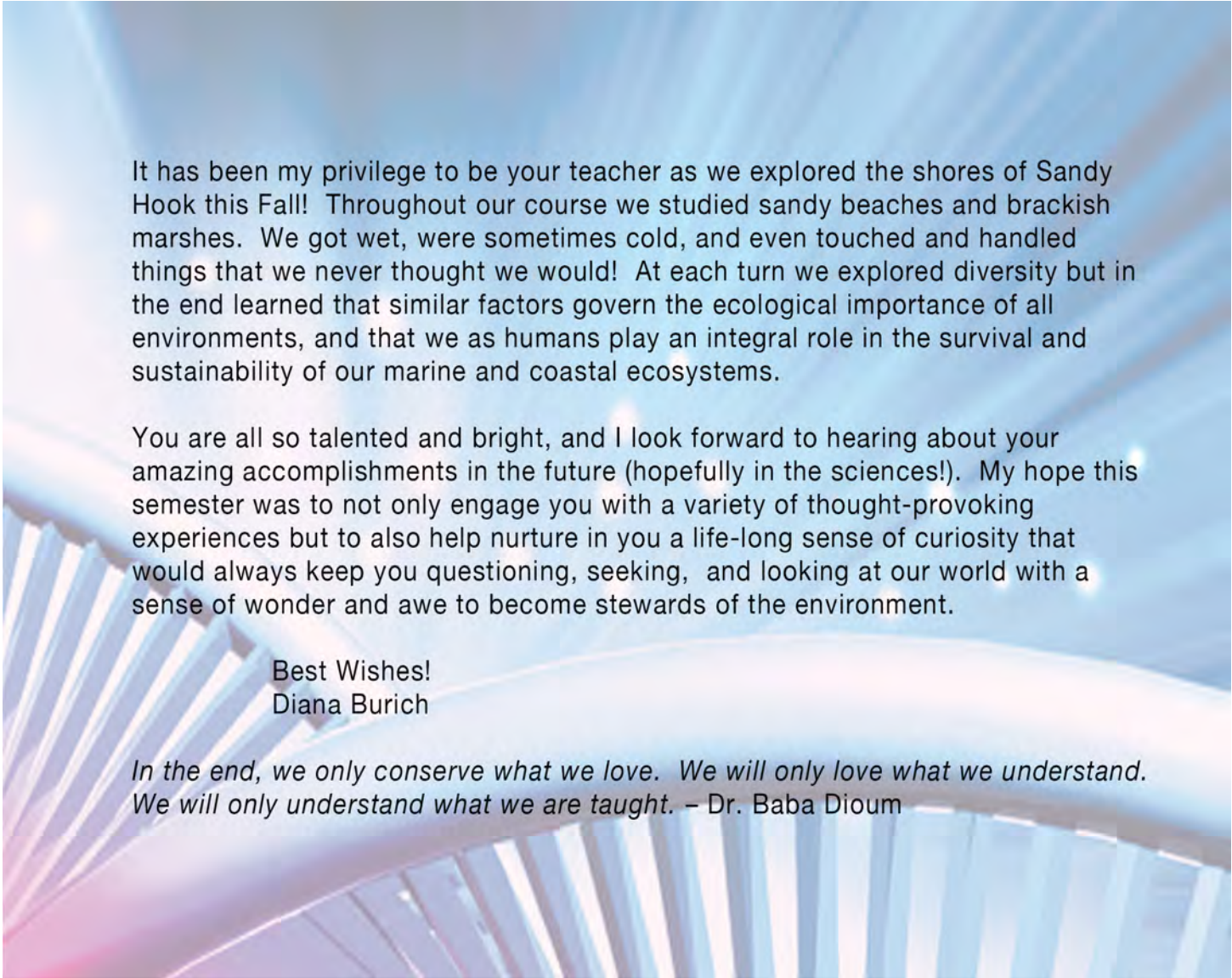




the stars
challenge

Explore Our Shore
Like Never Before
Fall 2018





It has been my privilege to be your teacher as we explored the shores of Sandy Hook this Fall! Throughout our course we studied sandy beaches and brackish marshes. We got wet, were sometimes cold, and even touched and handled things that we never thought we would! At each turn we explored diversity but in the end learned that similar factors govern the ecological importance of all environments, and that we as humans play an integral role in the survival and sustainability of our marine and coastal ecosystems.

You are all so talented and bright, and I look forward to hearing about your amazing accomplishments in the future (hopefully in the sciences!). My hope this semester was to not only engage you with a variety of thought-provoking experiences but to also help nurture in you a life-long sense of curiosity that would always keep you questioning, seeking, and looking at our world with a sense of wonder and awe to become stewards of the environment.

Best Wishes!
Diana Burich

*In the end, we only conserve what we love. We will only love what we understand.
We will only understand what we are taught. – Dr. Baba Dioum*



Students in *Explore Our Shore* spend as much time outdoors each Fall as possible, combing through Sandy Hook's estuarine, barrier beach and maritime forest ecosystems.



At Horseshoe Cove, students investigate marine species diversity by sampling the nearshore communities through seining and benthic exploration.



Students gain skills in microscope use in the teaching lab examining plankton samples. Phytoplankton, microscopic marine organisms, is responsible for approximately 70% of the oxygen produced on Earth.



Sandy Hook's North Beach serves as a backdrop for studying barrier beaches. Students measure longshore current, learn about plant succession and collect clam shells for a predator-prey relationship study.



Measuring increases and decreases in surface sand accumulation enables students to mathematically determine shoreline erosion and accretion, especially when compared to historical data.





Students work together to determine the health of Sandy Hook's tidal waters through chemical analyses of dissolved oxygen, pH and salinity.

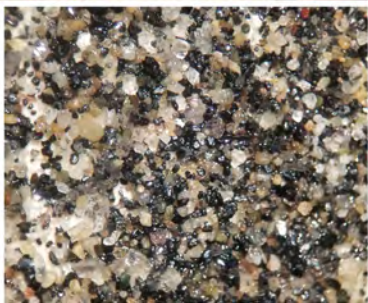


Dip nets, seine nets and chest waders enable students to go beyond dry land in their explorations.





By examining global sand samples, students learn how geographic location and geology of an area determines sand composition.





Interactions between predator (moon snail) and prey (surf clam) species that dwell in the surf zone of New Jersey's ocean beaches are analyzed for frequency and distribution among size categories.



Balloons and markers are tools used by partners to investigate the Coriolis Effect which has a strong influence on global surface ocean currents.



The Earth's oceans are not stagnant; water is constantly moving thanks to wind-, temperature- and density-driven currents. Here students are examining the motion of the ocean.



Students examine human impacts on the marine environment with guest instructor Mindy Voss of New Jersey Sea Grant Consortium by investigating climate change, ocean acidification, and marine pollution.



Summer Bay Group Marine Debris Survey	
Bay Group 1	79 83
Bay Group 2	153 199
Bay Group 3	23 19
Bay Group 4	64 77
Bay Group 5	52 10



