



**STUDENT INTERNSHIP APPLICATION FORM - SUMMER 2021**

All information on this form must be typed.

**Internship Information**

Internship Host:	NOAA National Marine Fisheries Service (NMFS)
Internship Title:	National Marine Fisheries Service West Coast Region Protected Resources Division Abalone Conservation Internship
Internship Location:	Long Beach, CA

**Applicant Information**

First Name:	Cerille	Last Name:	Castrillo
Student ID:		CSU Campus:	Cal State University Dominguez Hills
Primary Email:		Major:	Biology: Environmental Science and Ecology
Phone:		Overall GPA:	
Status (Soph, Junior, Senior, Grad Student):	Junior	Anticipated Graduation (mm/yyyy):	05/2022
Date Spring Semester/Quarter Ends:	05/25/2021	Date Available to Start Internship:	06/01/2021
Will you be enrolled at a CSU for Fall 2021? (Y/N)		Y	

**Have you previously been employed by, interned with, or volunteered for the internship host?**

No

Comments (If yes, please describe):

N/A

## Relevant Experience

For each section below, provide the information requested that complements the areas of knowledge listed in the Preferred Experience and Capabilities and/or Eligibility/Requirements sections of the internship you have selected. The boxes below will expand as you type; please feel free to use as much space as you need.

**List academic coursework (e.g., marine ecology or biology, fishes of California, statistics, etc.):**

### Current Coursework (Spring 2021 Semester)

**Mat 171**

*Survey of Calculus for Management and Life Sciences*

**Phy 120**

*Algebraic and Trigonometry based Physics*

**Bio 124**

*Principles of Biology III; Evolution and Ecology*

**Bio 125**

*Principles of Biology III Laboratory; Population Genetics and Ecology*

### Previous Coursework

**Math 150**

*Elementary Statistics with Probability*

**Che 110**

*General Chemistry; Chemical stoichiometry, atomic structure, quantum theory, gases, thermochemistry, ionic bonding, Lewis formulas*

**Geol 1**

*Physical Geology; Survey of minerals, rocks, and soils. Examines concepts of geologic time, relative and absolute age dating, and fossils*

**Bio 120**

*Principles of Biology I; Biochemistry, Cells, Genetics, and DNA processes*

**Bio 121**

*Principles of Biology I Laboratory; Biological molecules and cells, metabolism, and patterns of inheritance*

**Bio 122**

*Principles of Biology II; Prokaryotes, Fungi, Plants, Invertebrates, and Vertebrates*

**Bio 123**

*Principles of Biology II Laboratory; Properties of the animal kingdom, plant structure, plant reproduction, vertebrate organ systems, and animal fertilization*

**Bio 220**

*Molecular Biology; Emphasizing DNA processes of Prokaryotic and Eukaryotic systems*

**Bio 221**

*Molecular Biology Laboratory*; Techniques involving assessment of DNA processes of Prokaryotic and Eukaryotic systems

**List computer programs in which you are proficient (e.g., Microsoft Word, Excel, Access, R, Matlab, ArcGIS, minitab, Solidworks, etc.):****Terminal through Ubuntu**

Perform Unix Commands and Command Lines to analyze Genomic data through Terminal

**MS Office**

Word, Outlook, PowerPoint, OneNote, Access, Excel

**Google Drive**

Docs, Sheets, Slides, Forms

**Describe your field and/or laboratory experience (include experience gained through coursework as well as independent study):**

During my time as a student, I have had the ability to study under a wide array of professors. I originally obtained my Associate's degree in Anthropology before pursuing my passion for Environmental Science. Through Anthropology, I was trained to analyze and classify rocks, fossils, minerals, and bones through geologic methods. This semester, Spring 2021, I've had the opportunity to work as a research assistant for Dr. Sonal Singhal, a professor within CSUDH's Biology department. Our research's primary goal is to examine and compare the genetic data of rare vs. non-rare plants. Our methodology includes assessing genetic variations through quantitative analysis with the use of Terminal. The overall benefit of this research position was that it allowed me to acquire practical computer programming and coding skills. Furthermore, I was able to apply this data to conceptualize applicable practices towards conservation in the natural world. Protection of wild places is truly a passion of mine. This research allowed me to gain a realistic perspective on environmental preservation's unseen background work while also developing useful technical skills that can transfer over to many fields.

**Interest and Qualifications**

Please complete the sections below. The boxes below will expand as you type; please feel free to use as much space as you need.

**Please describe why you are interested in a summer internship in general. What do you hope to gain, learn and experience?**

Although Cal State Dominguez Hills provides many resources for STEM students, the institution currently has a limited amount of marine science research opportunities. To gain more knowledge of the field, I became a volunteer at the Aquarium of the Pacific last year. There I worked as an Education interpreter and spoke to the public on sustainability and wildlife conservation. Of all the ongoing projects the Aquarium of the Pacific has, the most intriguing one was its collaboration with NOAA to restore Abalone populations across the California coast. Educating the community on the importance of biodiversity was extremely rewarding. I aspire to participate in a program to further aid these efforts in a more technical and direct approach. Moreover, I am seeking to gain knowledge of the Non-profit sector of the Conservation Industry. I am interested in this role because, in our ever-changing climate, I see entire industries pushing to make a collaborative effort towards healthy ecosystems. At the center of that monumental shift is the NOAA. With its many partnerships like the National Marine Fisheries Service (NMFS), National Ocean Service (NOS), and Oceanic and Atmospheric Research (OAR) at the forefront of strategic ecological planning and habitat preservation work, I seek to collaborate with NMFS scientist to push this motion forward.

**How do you feel the internship you have selected will complement your educational experience at the CSU?**

At the Abalone Conservation Internship's core, I see the organization is seeking an individual with strong skills involving scientific data analysis, record keeping, data management, oral presentation, and public outreach. Through my many years as a student navigating the rigorous coursework through several departments, each one has provided me the foundation necessary to enhance those skills. Cal State Dominguez's Biology department has a strong emphasis on inquisitive and systematic thinking. The Biology division is genuinely where I got to expand my scientific reasoning and procedural skills through lectures and applicable laboratory practices such as gel electrophoresis, DNA recombination, PCR, protein purification, immunoblotting, etc. Through the Chemistry department, I gained critical skills in interpreting and analyzing chemical information, knowledge on sophisticated instrumentation and equipment to perform tasks such as qualitative analysis through laboratory experiments, and problem-solving skills involving chemical data. Linguistic and interpersonal skills were developed through Dominguez's emphasis on creating a collaborative and dynamic environment amongst their students throughout every course. Group work and public presentations are essential and expected abilities required amongst CSUDH students. Most notably is Cal State University Dominguez Hill's commitment to producing students who aim to enact transformative change. I am a testimony to that commitment and hope to demonstrate that alongside the National Marine Fisheries Service this summer, 2021.

**What are your educational and career goals?**

In accompaniment to the technical expertise gained through my on-campus research position came the opportunity to present my scientific purpose to my program mentors through my first written proposal. The drafting process of this grant was something I truly enjoyed, and fortunately, my project gained approval from my institution. I have developed a real appreciation for the composition of scientific literature. This appreciation set the trajectory goal towards acting as a co-author in a publication for one of CSUDH's many talented professors and publishing my own thesis in the future. I am most keen on producing contributive and action-oriented work towards the protection of vulnerable species and habitats. When I look towards the future, I envision myself as an aspiring Marine Biologist and Ecologist, using my work to produce a more sustainable future for all. Perhaps the foundation of that work could be sparked through a collaboration with the National Marine Fisheries Service. Identifying critical threats towards wildlife and their prevention could be a remarkable basis that could open the path to future coursework as a graduate student.

**Please describe your interest in the internship you have selected.**

- **What interests you most?**
- **Why do you feel you are uniquely qualified for this opportunity? Please be sure to include your specific skills and qualifications and address the Preferred Experience and Capabilities section of the internship description.**

Please be as detailed as possible. This section is extremely critical in evaluating your application. The box below will expand as you type; please feel free to use as much space as you need.

I am most interested in intersectional environmentalism, meaning my primary form of environmentalism includes finding solutions that promote flourishing ecosystems that maintain their ecological wholeness while still enabling the health of vulnerable communities that depend on that specific Biota. I seek to form new ways of developing a balanced mutualistic relationship between humans and the environment. What initially drew me to Environmental Science was because I realized that the profession could leave a longstanding impact on many marginalized communities. I am the daughter of two Filipino immigrants. When typhoon Vamco hit the Philippines last November, I sat by and watched my parents distressed calls to relatives back home. I began to dive into research about climate change and its effect on small islands. I learned that the Philippines was amongst the list of those most vulnerable. I asked my mother how her family felt about the climate crisis and what Philippine officials were doing to address it. She informed me that many of the people there are unaware of the problem because they do not have the resources or access to higher education. I decided that since I have been able to pursue my education further, I would do so to use my skills and knowledge to address global issues for those that cannot. With my Anthropological and Environmental Sciences background, I can bring the unique perspective of tying together culture and science to find creative new solutions that are better for the planet and its people.

I am a firm believer that scientific information should be available to everyone. In the Philippines, there is a proverb that goes like this, "Kung May Tinanim, May aanihin." Directly translating to, "If you plant, you harvest." I believe the key to scientific progression is action-oriented research. This means pursuing more questions, expanding our curiosity, and opening more scientific discussions to communities that are all too forgotten outside of the ivy league system. Scientific papers often tend to be filled with jargon that the untrained individual might not be accustomed to. I sought to make scientific information more accessible by volunteering at the Aquarium of the Pacific as an Education Interpreter, which allowed me to dissect that information into something more approachable to the community. From there, they could make well-informed decisions on how to improve their local environments and habitats. I aim to achieve that same goal through the National Marine Fisheries Service Abalone Conservation Internship by interpreting the information that we obtain throughout the summer in an approachable way to the community. By doing so, we can expand our scientific knowledge to a broader audience. By sowing more seeds of information in our communities' minds, we can reap the fruit of scientific knowledge for generations to come.

Alongside developing communal growth, it is also crucial to continue personal development. For this reason, I consistently seek to enhance my skills and knowledge outside of the classroom and laboratory. Outside of academia, I spend my time snorkeling or scuba diving off La Jolla and the Catalina kelp forest, keeping nature journals, and immersing myself in Oceanic textbooks. While the NOAAs Abalone Conservation Internship's hands-on approach to Ocean Sciences initially drew me to the program, the agency's mindset towards creating healthier resilient communities and habitats is what truly cements the organization for me. To be amongst those with a mindset towards the future and the inclination to pursue a better tomorrow would be a privilege to the highest degree.