



The Academy of  
**Natural Sciences**  
*of* DREXEL UNIVERSITY

# Environmental Leadership Summer Academy

## Student Handbook: Barnegat Bay 2025

### About the Student Handbook

The Academy of Natural Sciences of Drexel University's Environmental Leadership Summer Academy is an exciting opportunity for ambitious, adventurous high school students interested in environmental science, marine science, and field research. This handbook covers the details of the program and will serve as a reference for you and your parents as you prepare for the fun, busy week of fieldwork based out of the Lighthouse Center for Natural Resource Education in Waretown, NJ. It includes information on what to bring and what to expect, from group excursions to the logistics of room and board.

### Environmental Leadership Summer Academy

#### Mission

The Academy of Natural Sciences of Drexel University's Environmental Leadership Summer Academy seeks to fully engage students in hands-on research, to mature students' leadership abilities, and to open doors to a future in environmental sciences, marine sciences and related fields.

#### ELSA's Program Goals

- To expose students to a diverse range of research areas within environmental sciences
- To impart a broad understanding of what it takes to be a leader in the field

- To challenge students on an intellectual level through experiential learning and hands-on research
- To create a supportive environment in which students can form meaningful connections to fellow program attendees, museum and university staff, and faculty

### **Our Expectations of You**

We expect you to be an active participant and to use your intellectual curiosity to help you gain the most from all ELSA has to offer. We expect you to freely share your ideas, your opinions, and your knowledge with others. We expect you to push yourself and to take intellectual risks. We expect you to be receptive to new ideas, but to also think critically and question premises. We urge you to take full advantage of your time with the faculty, staff, and students of ELSA, and hopefully enjoy yourself at the same time!

### **Faculty and Residential Staff**

The ELSA staff have been carefully selected based on their background, familiarity with the program, and with the ecosystems of the Pine Barrens and Barnegat Bay. Staff are trained in CPR and First Aid. A staffing ratio of at least 1 staff member per 5 students will be maintained during lights-out hours. During the day, that ratio will be much lower: for many of the field trips, students will be split into smaller groups, with a faculty/staff to student ratio of about 1:3.

## **Accommodation at the Lighthouse Center for Natural Resource Education**

ELSA students are housed at the Lighthouse Center for Natural Resource Education in Waretown, New Jersey. These facilities are designed to encourage scientific research and education in the Pine Barrens-Barnegat Bay region and are the ideal location to minimize our travel time and maximize our field time during the program.

### **Cell phones, Laptops, iPads, etc.**

Cell phones, iPads and other electronic devices are permitted during designated hours and in designated locations, which will be discussed on the first day of the program. During field trips, lectures and workshops, phones should be kept off, except for photography. Cell phone service in the Pine Barrens can be patchy depending on your network provider.

### **Roommates**

Roommate assignments will be announced upon arrival. To ensure that students take advantage of the opportunity to meet new people, we do not take room assignment requests.

Students will be in single sex dormitories and faculty will be in cabins or separate, but accessible rooms nearby. Students will be expected to be polite and respect individual rights and property.

Bathrooms are shared between two rooms. Hot water is sometimes limited, and we ask that students keep showers short so that all may have the opportunity to have a hot shower. There are no laundry facilities available for students at the camp.

Mischief or vandalism will lead to expulsion from the camp and may, in severe cases, lead to criminal prosecution.

## Food

Meals will be provided at ELSA. It is crucial that you arrive at the dining hall on time to ensure you are served a full meal. Ample amounts of food are made at each meal but there are lots of hungry scientists who will want seconds! Snacks and drinks are normally available in the Dining Hall, and students can bring additional snacks if they would like.

## Working in the field

### Environment

For most ELSA students, this will be their first time working in the field. We'll be spending all day out in the field, so students must be prepared to be exposed to various elements. Temperatures in New Jersey range between 60°F and 88°F in July, so it is essential that students have a variety of clothing to pack for field trips each day, apply high SPF sunscreen, wear a hat with a brim, and drink at least 3 liters of water per day.

Some of our field sites cannot be accessed by car, so we will be driving to a trailhead or parking area, then hiking to the site. Some days, our fieldwork will lend itself to wearing water shoes (like Keens, Chacos, or similar) while other activities will require close-toed sneakers or boots, which should be well broken-in.

## What to Bring & What to Leave at Home

Students must bring a pillow. Bed sheets, a blanket, and bath towel will be provided. Please note: there will be no student laundry facilities available during the ELSA camp.

### Dress code

The dress code at ELSA is casual. It is strongly recommended to dress in light layers to prepare for changes in temperature, sun exposure, and moisture.

### Required items

#### In Camp:

- Toiletries
- Pillow

- Flip-flops for the shower

### Clothing:

- 3-4 field/long pants (not jeans); light colors are best for keeping cool
- 1-2 pairs of field shorts (optional)
- Shirts (5 short sleeve, 3 long sleeve)
- 1–2 casual outfits (for travel/around camp)
- 6 pairs of socks

### Outerwear/Gear:

- Sneakers
- Water shoes or sandals (not flip flops)
- Sweater for chilly nights
- Waterproof rain jacket
- Rain pants
- Field hat (recommended with brim)
- Water Bottle x 3 (1L capacity)
- Backpack

### Important Miscellaneous Items:

- Chapstick (with SPF)
- Insect repellent
- Sunscreen (high SPF & waterproof)
- Bandanas
- Flashlight/head lamp
- Extra batteries
- Sunglasses
- Eyeglasses (contact lenses not recommended because of dust)
- Required medications/prescriptions \* **indicate on medical form**
- EpiPen/Inhaler (as necessary) \* **indicate on medical form**
- Plastic grocery/trash bags for wet or dirty items
- Personal first aid (blisters, headaches, etc.)

### Optional items

- Camera
- Laptop
- Spending Money (keep in a secure location)
- Sketch Pad/Art Supplies
- Musical Instrument
- iPad
- Frisbee
- Waterproof Dry Bag
- Snacks

### Spending Money

All meals and activities are covered in the ELSA tuition cost, but students may want to bring some spending money for souvenirs and other incidental expenses. Although we do not suggest any specific amount, students should likely not need more than \$50 for the week. There are no

stores or other retail outlets within the Lighthouse Center camp, but students may have the opportunity to buy souvenirs along the way.

### **What to leave behind**

By ELSA policy:

- Students are prohibited from bringing a car, bicycle, unicycle, rollerblades, roller skates, skateboards, or other wheeled recreational devices.
- Pets are not permitted.
- Candles, incense, and other flammable materials are not permitted.
- Gaming systems (not including phones, tablets or laptops) are not permitted.
- Jewelry and other valuables are to be brought at your own risk. If an item is irreplaceable, please leave it at home. Neither Drexel University nor the Lighthouse Center will be responsible for lost, stolen, or broken items.

## A Typical Week at ELSA

*\*Program content and sequence may change due to weather, staff schedules or other circumstances.*

### **Day 1 — Arrival**

Sunday, July 13, 2025

- 1:00 PM to 3:00 PM: Drop off at the Lighthouse Center
- 3:00 PM: Camp Orientation and Unpacking
- 6:00 PM: Dinner
- 7:00 PM: Mock Town Meeting and Introduction to Pine Barrens Ecology
- 10:00 PM: Lights Out

### **Day 2 — Pine Barrens Ecology**

Monday, July 14, 2025

- 7:00 AM: Breakfast
- 8:00 AM: Canoeing on the Wading River
- 12:00 PM: Packed Lunch
- 1:00 PM: Canoeing on the Wading River
- 6:00 PM: Dinner
- 7:00 PM: Introduction to Barnegat Bay and Marine Ecosystems
- 10:00 PM: Lights Out

### **Day 3 — Barnegat Bay Explorations**

Tuesday, July 15, 2025

- 7:00 AM: Breakfast
- 8:00 AM: Maritime Forest Ecology and Coastal Geomorphology
- 12:00 PM: Lunch at the Lighthouse Center
- 1:00 PM: Boat Biogeochemistry
- 6:00 PM: Dinner
- 7:00 PM: Introduction to Science Communication
- 9:00 PM: Land Snail Ecology
- 10:00 PM: Lights Out

### **Day 4 — Barnegat Bay Explorations**

Wednesday, July 16, 2025

- 7:00AM: Breakfast
- 8:00 AM: Marsh Community Ecology
- 12:00 PM: Lunch at the Lighthouse Center
- 1:00 PM: Coastal Molluscan Ecology
- 6:00 PM: Dinner
- 7:00 PM: Nature Journaling
- 9:00 PM: Pine Barrens Herpetology
- 10:00 PM: Lights Out

### **Day 5 — Pine Barrens Ecology**

Thursday, July 17, 2025

- 7:00 AM: Breakfast
- 8:00 AM: Pine Barrens Botany
- 12:00 PM: Packed Lunch
- 1:00 PM: Pine Barrens Ecosystems

- 6:00 PM: Dinner
- 7:00 PM: Introduction to Birding
- 10:00 PM: Lights Out

### **Day 6 — Coastal Environments**

Friday, July 18, 2025

- 7:00 AM: Breakfast
- 8:00 AM: Shorebird Observations
- 12:00 PM: Packed Lunch
- 1:00 PM: Recreation at the Beach
- 6:00 PM: Dinner
- 7:00 PM: Introduction to Entomology
- 9:00 PM: Entomology Survey
- 10:00 PM: Lights Out

### **Day 7 – Departure**

Saturday, July 19, 2025

- 7:00 AM: Breakfast
- 8:00 AM: Packing and Socialization
- 10:00 AM: Forestry
- 12:00 PM: Closing Ceremony with Family

## **ELSA Code of Conduct**

Use common sense. Respect others. Ask questions. Keep an open mind. Manage your time effectively. Look out for one another. Accept criticism so that you may benefit from it. Try your hardest. Seek help when you need it. Endeavor to get along with others. Get plenty of rest!

## ELSA POLICIES & PROCEDURES

All ELSA policies and rules are in effect for the duration of the program, whether students are on or off campus. Please familiarize yourself with policies prior to your arrival at ELSA.

1. **ATTENDANCE and PUNCTUALITY:** Students are expected to attend and participate in regularly scheduled lectures, field trips, workshops, etc. Students are expected to arrive on time for all scheduled activities.
2. **Non-ELSA VISITORS or GUESTS** are not allowed to attend any program events or classes or visit students during ELSA.
3. **ACCOMODATION:** ELSA residences are gender separate. Male students are not allowed in the women's rooms, and vice versa. ELSA reserves the right to have authorized staff members enter any student's room without notice if reasonable cause suggests regulations are being violated or in the event of an emergency.
4. **CURFEW, QUIET HOURS:** Students are expected to remain in designated buildings at all times, unless participating in a supervised activity. A curfew is established each night by the Camp Director and quiet hours at camp are between 10 pm and 6 am. Students wishing to listen to music during this time must do so with headphones.
5. **RESPECTING THE RIGHTS OF OTHERS:** Students are expected to exercise mature judgment in respecting the rights of others. Good manners during classes, presentations, field trips, and all program activities are expected. Quiet hours are to be respected.
6. **TOBACCO, VAPING, & ALCOHOL USE:** Tobacco, vaping, and alcohol use by ELSA students is prohibited for the duration of the program, from the point of arrival to the point of departure. This is state law. Students found using tobacco or alcohol will be expelled from the program.
7. **LIGHTHOUSE CENTER PROPERTY AND POLICIES:** Students may not damage or alter the walls, floors, ceilings, and furnishings in any facilities. Students may not change furnishings from room to room. Students and their families will be held financially responsible for the costs of damage to or loss of Sanctuary property. Students may not play ball games or throw frisbees or other projectiles inside any of the Lighthouse Center buildings.
8. **FIRE:** Fire procedures will be explained upon arrival.
9. **CHANNELS OF COMMUNICATION:** ELSA staff are responsible for resolving any residential life problems that may arise during the program. Students should feel free to approach any member of the ELSA staff with a problem.
10. **EXPULSION:** A student will be expelled promptly for any of the following reasons: possessing or using alcoholic beverages; possessing or using illegal drugs; entering an establishment whose primary purpose is to serve alcoholic beverages, unless accompanied by a parent or legal guardian; stealing; violent behavior; behavior that is considered potentially harmful to oneself and/or to others; malicious damage to property; possession of weapon(s); leaving the program without permission; leaving the dormitory after curfew; violations of tobacco, vaping, and alcohol use policy or curfew policy, or other serious violations of program policies.



## Contact Information for Parents/Guardians

In case of an emergency, please contact the ELSA administrator or camp director. Remember, the camp director will be in the field during the day and may not have cell phone coverage.



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Bio: Michelle is a biogeochemist studying systems ranging from single organism to large scale environments. She has been involved with immersive high school camp programming in Barnegat Bay since 2016.



Mariah Romaninsky

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Director of Education, Learning and Development, The Academy of Natural Sciences of Drexel University

Bio: Mariah is an experienced environmental educator with a history of working in museums. She values community engagement in science and strives to build a strong network of early career STEM leaders.



Malcolm Newman

Operations Manager, Drexel University

Bio: Malcolm is a conservation ecologist with expertise in freshwater mussels, entomology, and botany. He has been working with environmental educational programs in Barnegat Bay since 2019.



Amber Guzzi

Geoscience Educator, The Academy of Natural Sciences of Drexel University

Bio: Amber is a Geoscientist specialized in fossil preparation and biology and geoscience education. You can often find her digging for dinosaurs, cleaning specimens, or studying geological formations.